DOCUMENT RESUME

ED 139 797	95	SP 011 107

AUTHOR	Harrell, Adele V.; And Others
TITLE	Federal Education Research and Development for Children and Adolescents: An Analysis of FY 1975 Project Data. Final Report.
INSTITUTION	George Washington Univ., Washington, D.C. Social Research Group.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Jan 77
CONTRACT	400-76-0117
NOTE	181p.
EDRS PRICE	MF-$0.83 HC-$10.03 Plus Postage.
DESCRIPTORS	Curriculum Research; *Educational Development; *Educational Research; Educational Researchers; Elementary Secondary Education; *Federal Programs; Research and Development Centers

ABSTRACT

The results of an analysis of the Social Research Group's Fiscal Year 1975 project data as it relates to several educational research and development (R&D) issues are summarized in this report. There are four main chapters. Chapter I covers the R&D projects included in the Interagency Research Information System (IRIS) and reports what kind of education is supported by which agencies, performed by what organizations, designed to benefit what populations, and which substantive areas education R&D is focused on. Chapter II discusses project-level characteristics that differentiate the R&D sponsored by the National Institute of Education (NIE) and the U.S. Office of Education (USOE) and identifies data that can be used to describe these differences. Chapter III describes the multifaceted research efforts being supported by NIE and other Federal agencies in the area of curriculum development. Chapter IV discusses the extent that demographic data collected on the principal investigator of each project can be used to describe the research expertise working on education and asks whether the omission of such data by some projects precludes their analytic value. In addition, an extensive set of appendixes conclude the report: (A) a list of the agencies represented in the IRIS data base; (B) the list of tables delivered but not included in this report because of size; (C) the definition of education research used in the production of the tables; (D) the IRIS classification system and associated definitions; and (E) an elaboration of the methodology used for the NIE-USOE comparison. (MM)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes ev
effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects
quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDS
EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made fr

ED139797

SP

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Final Report

NIE Contract 400-76-0117

Federal Education Research and Development for Children and Adolescents An Analysis of FY 1975 Project Data

by

Adele V. Harrell
Philip W. Wirtz
Maure Hurt, Jr.

Social Research Group
The George Washington University
Washington, D. C.

January, 1977

SP011 107

ACKNOWLEDGMENTS

The authors wish to acknowledge the outstanding assistance of Charles Wagner in producing the tables and figures for this report and contract. We are also grateful for the patient and accurate typing of Linda Bley, Mae Barnes, Virginia Reid, and Miles Charest, as well as the thoughtful editorial assistance of Helen Somerville and Lois Morrill.

TABLE OF CONTENTS

Page

INTRODUCTION

CHAPTER I: Education Research and Development: An Overview........ 3

CHAPTER II: Comparison of NIE-USOE Education Research and Development 20

CHAPTER III: Curriculum Development 49

CHAPTER IV: Feasibility Study: Principal Investigator Data 65

APPENDICES:

Appendix A: Participating Member Agencies of the Interagency Panels on Early Childhood and Adolescence Research and Development in FY '75 69

Appendix B: Tables Prepared for the National Institute of Education by The George Washington University Social Research Group under the contract 71

Appendix C: The Identification of Projects as Research on Education 74

Appendix D: Classification of Federally-Funded Research in Early Childhood and Adolescence in FY '75 and the Users Manual 78

Appendix E: Comments on the Methodology 167

LIST OF TABLES AND FIGURES

		Page
Table I:	Primary Focus of Research on Education across Agency Clusters	8
Table II:	Federal Agencies Included in Each Agency Cluster	9
Table III:	Percentage of Agency Funds by Kind of Research on Education	10
Table IV:	Primary Focus by Kind of Education Research	11
Table V:	Education Research for Special Populations	13
Table VI:	Education Research for Special Populations by Agency Cluster	14
Table VII:	Education Research for Special Populations (Demographic Characteristics)	15
Table VIII:	Education Research for Special Populations by Agency Cluster	16
Table IX:	Organizations Performing Education Research by Supporting Agency Cluster	17
Table X:	Zero Order Correlations by Dimension	23
Table XI:	Funding and Percent of Agency Funds by Dimension	32
Table XII:	Differences Between Percent of Agency Funds and Percent of Agency Projects	39
Table XIII:	Regression of AID-Identified Interactions: A Summary Table	44
Table XIV:	Regression on AID-Identified Interactions: A Summary Table	48
Table XV:	Curriculum Funding by Kind of Research	50
Table XVI	Curriculum Development Funds by Agency and Agency Cluster	51
Table XVII:	Total Federal and NIE Curriculum Development by Target Population (Special Characteristics)	53
Table XVIII:	Total Federal and NIE Curriculum Development by Target Population (Demographic Characteristics)	54
Table XIX:	Total Federal and NIE Curriculum Development by Subject Area	55
Table XX:	Total Federal and NIE Curriculum Development Funds by Area	56
Table XXI:	Funding of Performing Organizations by Federal Agencies	57
Table XXII:	NIE Funding for Curriculum Areas by Demographic Characteristics	58

Table XXIII: NIE and Total Federal Support of Curriculum Areas by Target Population Demographic Characteristics 59

Table XXIV: Curriculum Areas by Target Population Special Characteristics in Dollars 60

Table XXV: Characteristics of Curriculum Development Projects Across Agency Cluster by the Percentage of Agency Cluster Funds 62

Table XXVI: Curriculum Funding for Selected Populations Across Agency Clusters 63

Table XXVII: Non-Response Breakdown of Principal Investigator Data 66

Table XXVIII: Omission of Principal Investigator Data by Agency 67

Figure 1: Ranked Zero Order Correlations 31

Figure 2: Optimal Partitioning of NIE-USOE Projects 41

Figure 3: Percentage of NIE Projects in Final Groups 42

Figure 4: Percentage of USOE Projects in Final Groups 42

Figure 5: Multivariate Interactions Ranked by Explanatory Power 44

Figure 6: Comparison of NIE and USOE Projects for High School Students 46

INTRODUCTION

In 1970, at the direction of OMB and DHEW, the Office of Child Development took the lead in organizing an Interagency Panel on Early Childhood Research and Development with the goal of facilitating coordination of the member agencies' R&D activities designed to benefit children. A second Panel was organized in 1972 to perform an analogous function in the area of adolescence.

It soon became apparent that a source of information on the ongoing research was critical to the successful functioning of the Panels. Accordingly, first a series of grants, later contracts, were arranged with the Social Research Group of The George Washington University to collect data on the RDD&E projects of the Panels' member agencies.

The resulting Interagency Research Information System (IRIS) contains information gathered annually from the proposals of each research and development project on children and youth supported by the Panel member agencies. (See Appendix A for the list of agencies). The detailed project level data permits a close examination of the similarities and differences among agencies on many aspects of their research programs, such as kind of research supported, the subject of the research, the funding mechanisms used, the distribution of funds geographically, etc. In addition, the use of a common categorization system provides data that is less constrained by agency administrative boundaries and priority statements.

Obviously the resources of such a data base could be used by the National Institute of Education in its ongoing monitoring of educational knowledge production and utilization. Therefore, in July of 1976 NIE contracted with the Social Research Group for an analysis of the FY '75 project data as it relates to several education R&D issues, the results of which are summarized in this report:

- Chapter I, Education Research and Development: An Overview. What education research and development projects are included in the IRIS system? What kind of education R&D is supported by which agencies, performed by what organizations, designed to benefit what populations, focused on what substantive areas?

- Chapter II: A Comparison of NIE-USOE Education Research and Development. What project-level characteristics differentiate the research and development sponsored by NIE and USOE? How can the data be used to describe these differences?
- Chapter III: Curriculum Development. A description of the multi-faceted research efforts being supported by NIE and other Federal agencies in the area of curriculum development.
- Chapter IV: Feasibility Study: Principal Investigator Data. To what extent can the demographic data collected on the principal investigator of each project be used to describe research expertise working on education issues? Does the omission of such data by some projects preclude its analytic value?

In addition to the four main chapters, this report is concluded with an extensive set of appendices including: (A) a list of the agencies represented in the data base; (B) the list of tables delivered but not included in this report because of size; (C) the definition of education research used in the production of the tables; (D) the IRIS classification system and associated definitions; and (E) an elaboration of the methodology used for the NIE-USOE comparison.

CHAPTER I

EDUCATION RESEARCH AND DEVELOPMENT: AN OVERVIEW

The IRIS Data Base

Prior to presenting an overview of education research and development from the perspective of IRIS, it is necessary to examine the extent to which the data base is adequate for this purpose and describe the definitions of education and of research and development used by the system.

The 1975 IRIS file contains classification, principal investigator, and funding data on 3,536 projects of the 27 member agencies (see Appendix A), representing a total commitment of more than $370.3 million. The classification scheme contains some 900 codes categorizing the salient characteristics of each project (see Appendix D). The general categories of information collected are: project information, including funding arrangement, duration, scope, sample size, state and auspices; targeted population information; kind of research; focus of research, primary and secondary; areas of research, including developmental processes, study of research methods, family, broader social environment, people in the child's environment, and intervention programs; and principal investigator information. Projects are included in the system if they are designed to benefit children or youth, prenatal through twenty-four years old, and fall into the following categories of research related activities:

1) Basic research directed primarily at increasing knowledge, discovering basic relationships, or providing background information.
2) Applied research directed at the solution to specific problems.
3) Development of products including tests, systems, models, equipment, materials or methods.
4) Demonstration or pilot study to field test, on a small or large scale, the method of operation or applicability of a research or program model.

BEST COPY AVAILABLE

5) Evaluation of the effectiveness of a broad program, project, model, strategy, materials, methods, or costs.

6) Research support and utilization activities directly related to planning or disseminating research, including conferences, publications, and information systems.

7) Policy research on needs, goals, priorities, or guidelines affecting children and youth.

A total of 2,523 projects (funded at $295,041,146) were classified as education on the basis that they "investigate, evaluate, or demonstrate, the provision of educational services as a primary or secondary focus to children or adolescents; the use of educational curriculum for children or adolescents; the use of innovative teaching procedures or approaches to instruction; the use or development of instructional materials for children or adolescents; or conduct basic research in either cognitive development (the process by which knowledge is acquired) or socioemotional development (the process of socialization)." A detailed description of the procedures used to define education is provided in Appendix C.[1] Other estimates of federal funding for educational knowledge production and utilization are available.[2]

While IRIS is a powerful resource for determining Federal research efforts, the data must be reviewed with three key limitations in mind:

The data base contains data pertaining only to the 27 member agencies of the Interagency Panels for Research and Development on Early Childhood and Adolescence listed in Appendix A. Data is not collected from other agencies; specifically the National Science Foundation, the National Endowment for the Humanities, the National Center for Educational Statistics and the Department of Defense; which are known to support education R & D.

---

[1] Some projects, sponsored by NIE, funded at $1,188,740, were not classified "education research" under the definition in Appendix C. While these projects did indeed study some aspect of education, it was agreed between SRG and NIE that the same selection standards applied to other agencies should be used for NIE and that the agreed upon definition was the most accurate across all agencies in selecting education research from non-education research.

[2] Nelson, Carnot, William M. Sowers and Ward S. Mason. "An Estimate of FY 1975 Federal Funding for Educational Knowledge Production and Utilization by Agency, Using Four Data Bases," National Institute of Education, November 1976.

- By the mandate of the Panel, only research involving subjects up through 24 years of age is included. Thus, activities of the member agencies that are directed at adult education may be excluded. A further complication of the age categories is that a project could involve children and adolescents or children only or adolescents only. Because of this overlap the number of projects involving children plus the number of projects involving adolescents equals more than the actual number of projects in in IRIS. However, for this analysis the data files have been combined, therefore, there is no overlap by age. Also by mandate of the Panel, certain kinds of projects that an agency may define as education are not collected, such as training of staff, interagency transfers to other agencies and program management activities.
- An unknown quantity of applicable projects are overlooked due to a myriad of roadblocks to data collection. In the interest of timeliness, data collection is often performed before an agency has had a chance to compile accurate and complete lists of that year's funding. A further problem exists in collecting information on active but not funded projects, a category rarely dealt with by grants and contracts offices. Another possibility is that a program exists in some separate office that the data collection staff has no way of knowing about. Cooperation from agency staff is, at times, minimal. Every attempt is made to first search out all pertinent research in the agencies and then verify accuracy and completeness of the data. Every year each agency receives a copy of projects and funding for verification. When final lists are produced by the agencies, they are used to update IRIS. An internal validation technique is used to limit coder error. A sample of approximately 5% of the projects are checked by a second coder.

The extent to which these considerations limit the analytical power of the IRIS system is reviewed by Nelson, et al.[3] In very rough terms, approximately 58% of the Federal expenditures in FY '75 on education research and development is represented by the projects included in IRIS, based on the total estimated knowledge production and utilization funding presented in that report. In NIE, for example, the total funding not included in the IRIS data is $17,374,150. For the most part, these funds supported activities outside the IRIS definition for inclusion.

---

[3] Ibid.

Area of Research

The primary focus of the study refers to the primary area of interest of the study, one, and only one, for each project is selected.

The possible choices are:

Overall development of the child or adolescent;
  Physical development;
  Cognitive development
  Social-emotional development;

The family;

The neighborhood environment;

The broader social environment;

Study of research methods;

Health and Welfare services;
  Day care;
  Health care;
  Protective/advocacy services;

Educational services;
  Special education;
  Early childhood education;
  Elementary school education;
  Secondary school education;
  Post-secondary school education;
  Alternative education; and

Juvenile justice institutions.

These same choices exist for secondary focus to allow the coder to further define the purposes of the project.

The primary focus of most Federal education research and development in FY '75 was some aspect of the provision of educational services which received $257,532,316 (88%) of the funds. As Table I shows, most support was directed to educational services in general (34%), elementary education defined as kindergarten through sixth grade (27%), and special education for the handicapped (15%). Only 5% of the funds went to projects primarily focused on areas of child development and 6% to those on various health and welfare services, including day care.

The table also compares the funding pattern across the Federal agencies which have been grouped for this purpose into clusters defined in Table I1. This comparison reveals that while the major sponsors of education research and development, NIE and USOE, each devoted 98% of their funds to studies focused on educational services, the other three agency clusters directed only 24 to 30% of their funds to these issues. The PHS/NIH agencies heavily supported education research related to child development, especially cognitive and social emotional development. In contrast, the other DHEW and other Federal agencies supported education studies focused on health and welfare services including day care. The pattern of differing areas of concentration serves to highlight the necessity of cross-agency communication of research information.

TABLE I

PRIMARY FOCUS OF RESEARCH ON EDUCATION ACROSS AGENCY CLUSTERS

Primary Focus*	TOTAL	NIE	USOE	PHS/NIH	OTHER DHEW	OTHER FED.
Total	$295,041,146 (100%)	$45,456,561 (100%)	$207,889,567 (100%)	$25,327,754 (100%)	$14,826,145 (100%)	$1,541,119 (100%)
Child or Adolescent Development	1,116,912 (0%)	59,000 (0%)	75,000 (0%)	737,912 (3%)	245,000 (2%)	0 (0%)
Physical Development	1,949,783 (1%)	233,145 (1%)	0 (0%)	1,560,443 (6%)	0 (0%)	156,195 (10%)
Cognitive Development	6,481,294 (2%)	95,078 (0%)	701,127 (0%)	5,479,255 (22%)	205,834 (1%)	0 (0%)
Socioemotional Development	4,639,551 (2%)	0 (0%)	137,048 (0%)	4,147,551 (16%)	307,127 (2%)	47,825 (3%)
The Family	1,587,064 (1%)	0 (0%)	236,100 (0%)	859,094 (3%)	388,716 (3%)	103,154 (7%)
Neighborhood Environment	32,787 (0%)	0 (0%)	0 (0%)	32,787 (0%)	0 (0%)	0 (0%)
Broad Social Environment	546,896 (0%)	0 (0%)	0 (0%)	528,644 (2%)	0 (0%)	18,252 (1%)
Research Methods	2,284,629 (1%)	596,381 (1%)	1,399,273 (1%)	56,178 (0%)	230,797 (2%)	2,000 (0%)
Health or Welfare Services	3,612,108 (1%)	0 (0%)	771,501 (0%)	398,047 (2%)	1,885,820 (13%)	556,740 (36%)
Day Care	3,787,579 (1%)	0 (0%)	372,314 (0%)	319,963 (1%)	2,925,172 (20%)	170,130 (11%)
Health Care	5,543,887 (2%)	0 (0%)	884,832 (0%)	4,323,478 (17%)	290,265 (2%)	45,312 (3%)
Protect/Advocacy Service	5,293,052 (2%)	0 (0%)	349,376 (0%)	64,583 (0%)	4,879,093 (33%)	0 (0%)
Educational Services	101,876,834 (34%)	32,711,824 (72%)	64,875,651 (31%)	2,193,607 (9%)	1,948,452 (13%)	147,300 (10%)
Special Ed.	43,742,979 (15%)	204,739 (0%)	42,620,991 (21%)	917,249 (4%)	0 (0%)	0 (0%)
Early Childhood Ed.	5,636,329 (2%)	245,969 (1%)	3,125,352 (2%)	1,035,653 (4%)	1,210,937 (8%)	18,418 (1%)
Elementary Ed.	80,555,270 (27%)	2,746,853 (6%)	76,948,223 (37%)	757,062 (3%)	95,322 (1%)	7,810 (1%)
Secondary Ed.	18,670,930 (6%)	7,053,572 (16%)	11,418,454 (5%)	154,679 (1%)	16,500 (0%)	27,725 (2%)
Post-Secondary Ed.	5,548,522 (2%)	1,510,000 (3%)	2,874,444 (1%)	828,450 (3%)	107,740 (1%)	227,888 (15%)
Alternative Ed.	1,501,452 (1%)	0 (0%)	1,078,561 (1%)	321,121 (1%)	89,370 (1%)	12,400 (1%)
Juvenile Justice	633,318 (0%)	0 (0%)	21,320 (0%)	611,998 (2%)	0 (0%)	0 (0%)

---

*Categories are mutually exclusive and exhaustive.

TABLE II

FEDERAL AGENCIES INCLUDED IN EACH AGENCY CLUSTER

Agency Cluster	Agency
USOE	
	Division of Bilingual Education
	Follow Through
	Bureau of Education for the Handicapped
	Office of Indian Education
	Office of Career Education
	Bureau of Occupational and Adult Education
	Division of Educational Technology
	Office of Planning, Budgeting, and Evaluation
	Division of Plans and Supplementary Centers
	Right-to-Read
	Office of Environmental Education
NIE	
	National Institute of Education
PHS/NIH	
	National Institute of Mental Health
	National Institute of Child Health and Human Development
	National Institute on Alcohol Abuse and Alcoholism
	National Institute on Drug Abuse
OTHER DHEW	
	Office of Child Development
	Office of Youth Development
	Social and Rehabilitation Service
OTHER FEDERAL	
	Department of Labor
	Department of Agriculture
	ACTION

Kind of Research Activity

The majority (62%) of the Federal education research and development funds were devoted to demonstration or pilot studies which involved field testing innovative educational methods, materials, or models, as shown in Table III. These projects typically provided services and evaluated the impact or effectiveness of the services provided. Seventy-eight percent of the funds reported for USOE were used for demonstrations. Development of models, materials or methods, the research stage prior to demonstration, received the next largest percent of total funds (17%) and were especially heavily supported by NIE (40% of the reported NIE funds). Evaluation, supported most heavily by NIE, other DHEW and other Federal agencies, investigates the impact of effectiveness of already operating education programs. PHS/NIH differed noticeably from the other agencies in the percentage of the education funds going to basic research (52%).

TABLE III

PERCENTAGE OF AGENCY FUNDS BY KIND OF RESEARCH ON EDUCATION

Agency Cluster	Basic	Development	Pilot or Demonstration	Other Applied Research	Evaluation Research	Support & Utilization	Policy Research	Total
TOTAL FEDERAL $295,041,146	**6%**	**17%**	**62%**	**4%**	**8%**	**2%**	**1%**	**100%**
NIE $45,456,561	**2**	**40**	**17**	**12**	**18**	**10**	**1**	**100**
USOE $207,889,567	**1**	**14**	**78**	**1**	**5**	**1**	**1**	**100**
PHS/NIH $25,327,754	**52**	**8**	**19**	**15**	**5**	**0**	**0**	**100**
OTHER DHEW $14,826,145	**10**	**13**	**44**	**8**	**23**	**0**	**1**	**100**
OTHER FEDERAL $1,541,119	**26%**	**1**	**26**	**2**	**36**	**4**	**5**	**100**

The kind of research being conducted in each primary focus area is shown in Table IV. Correlation between basic research and studies of child development, the family and the child's environment can be seen. The lack of policy research across all issues may point out an area for additional support, though many studies classified elsewhere have policy implications.

TABLE IV

PRIMARY FOCUS BY KIND OF EDUCATION RESEARCH

	BASIC	APPLIED RES. IN GEN.	PILOT & DEMONSTRATION RES.	DEVELOPMENT	EVALUATION RESEARCH	SUPPORT & UTILIZATION	POLICY RESEARCH	TOTAL
Child Devel. in Gen.	61%	0%	39%	0%	0%	0%	0%	100%
Physical Devel.	63	0	37	0	0	0	0	100
Cognitive Devel.	90	1	8	1	0	1	0	100
Social-Emotional Dev.	85	6	7	3	0	1	0	100
The Family	75	0	21	0	4	0	0	100
Neighborhood Envir.	100	0	0	0	0	0	0	100
Broad Social Envir.	100	0	0	0	0	0	0	100
Research Methods	2	0	10	37	28	23	0	100
Health Svcs. in Gen.	2	8	64	7	15	5	0	100
Day Care	8	0	23	0	69	0	0	100
Health Care	9	33	30	17	11	0	0	100
Protect/Advocacy Svc.	2	15	60	19	0	0	4	100
Education in Gen.	1	4	51	25	14	4	1	100
Special Education	1	2	65	26	2	4	0	100
Early Childhood Ed.	3	11	66	13	7	0	0	100
Elementary Ed.	0	1	92	3	3	0	0	100
Secondary Ed.	2	15	51	31	1	0	0	100
Post-Secondary Ed.	3	7	49	27	7	2	4	100
Alternative Ed.	1	21	70	6	2	0	0	100
Juvenile Justice	0	0	46	0	54	0	0	100

Research for Special Populations

A subject of some concern to educational policymakers is "What populations are benefiting from Federally sponsored R & D on education?" Each of the target populations specified in the project proposal is classified, using two sets of descriptors: (1) those that describe the population as consisting of either children in general or children with certain special characteristics and (2) those that describe the population by selected demographic characteristics.

Table V shows the funding for the target populations identified by special characteristics. Support for special populations slightly exceeded that for children in general (47 to 40%). The special population receiving the most support was bilingual children who received large amounts of support from the Office of Indian Education and the Division of Bilingual Education, both within USOE.

In fact, as Table VI shows, USOE supports the majority of all the education R & D for special populations (82%). Only studies on drug users, delinquents, or abused or neglected children received more support from an agency other than USOE. PHS/NIH agencies, specifically the National Institute on Drug Abuse and the National Institute of Mental Health, directed research at drug use and delinquency, while agencies in the Other DHEW category, especially the Office of Child Development, studied abused and neglected children. Support for adolescent parents, small in total amount, was more evenly distributed across agencies. NIE contributed greater portion of the funding for school dropouts and gifted children than for any other special population.

TABLE V

EDUCATION RESEARCH FOR SPECIAL POPULATIONS*

	Funding	Percentage of Education Research
Children Both With and Without Special Characteristics	$21,571,160	7%
Children Without Special Characteristics Only	116,780,128	40
Children With Special Characteristics Only	138,035,979	47
Population Not Specified	18,653,879	6
Physically Handicapped	29,045,405	10
Mentally Retarded	16,025,350	5
Learning Disabled	12,615,907	4
Emotionally Ill	11,794,911	4
Drug Users	4,160,945	1
Delinquent	1,840,734	1
Runaway	107,690	0
School Dropouts	6,748,313	2
Abused/Neglected	4,931,439	2
Bilingual	76,839,525	26
Gifted	1,998,427	1
Adolescent Parents	727,694	0
Academically Slow	7,472,570	3

*Categories are not mutually exclusive nor exhaustive. The categories below the dashed line are subcategories of children with special characteristics and the funds are reported in both places.

TABLE VI

EDUCATION RESEARCH FOR SPECIAL POPULATIONS*BY AGENCY CLUSTER

	TOTAL	NIE	USOE	PHS/NIH	OTHER DHEW	OTHER FED
All Children	100%	26%	57%	10%	6%	1%
Special Characteristics	100	5	82	9	4	0
Physically Handicapped	100	1	93	6	0	0
Mentally Retarded	100	1	77	21	0	0
Learning Disabled	100	0	88	12	0	0
Emotionally Ill	100	0	76	22	2	0
Drug Users	100	0	8	92	0	0
Delinquent	100	0	12	78	10	0
Runaway	100	0	63	37	0	0
School Dropouts	100	30	61	6	0	4
Abused/Neglected	100	0	12	0	88	0
Bilingual	100	3	96	0	1	0
Gifted	100	37	63	0	0	0
Adolescent Parents	100	0	39	34	21	7
Academically Slow	100	18	70	8	1	3

* Categories are not mutually exclusive.

TABLE VII

EDUCATION RESEARCH FOR SPECIAL POPULATIONS*
(DEMOGRAPHIC CHARACTERISTICS)

	Funding	Percentage of Education Research
White	$18,236,341	6
Spanish Surname	78,194,951	27
Black	29,574,542	10
American Indian	25,470,362	9
Poor	87,112,633	30
Urban	58,499,874	20
Suburban	4,917,340	2
Rural	21,962,990	8

*Categories are not mutually exclusive.

Special demographic populations were defined on the basis of ethnicity, economic status, and residential location. Table VII illustrates the education R & D funds specifically designated for such populations. These categories obviously overlap and it can be assumed that many of the same dollars are reported for poor, urban, and Spanish-surnamed. However, substantially more support went to these populations (support ranging from 20 to 30% of all education research funds) than to others such as rural, black or American Indian (support ranging from 8 to 10%). Table VIII shows the percentage of each agency cluster funds devoted to these populations. Again USOE supported the majority of the education R & D for all the special populations. NIE supported more of the research for rural children than any other special population. Both the PHS/NIH agencies and the other DHEW agencies contributed noticeably to the support for black, white, and suburban populations.

TABLE VIII

EDUCATION RESEARCH FOR SPECIAL POPULATIONS* BY AGENCY CLUSTER

	TOTAL	NIE	USOE	PHS/NIH	OTHER DHEW	OTHER FED
White	100%	4%	61%	23%	11%	2%
Spanish-Surnamed	100	2	92	3	2	0
Black	100	3	68	16	11	2
American Indian	100	4	80	12	4	0
Primarily Poor	100	4	88	4	4	1
Urban Area	100	11	72	9	7	0
Suburban	100	10	58	17	15	0
Rural	100	28	60	5	6	1

*Categories are not mutually exclusive.

Performing Organizations

The largest amount of the education R & D funding (42%) went to local education agencies, followed by support for academic organizations (19%) and non-profit organizations (17%). USOE provided most of its funds to the local education agencies and divided its support rather evenly across other performing organizations. In contrast, NIE, PHS/NIH and other DHEW agencies each funded to non-profit research organizations and academic institutions for the majority of their education R & D. Profit-making research organizations were the primary performers for the other Federal agencies. Only 7% of the education R & D funds went to state education agencies.

TABLE IX

ORGANIZATIONS PERFORMING EDUCATIONAL RESEARCH BY SUPPORTING AGENCY CLUSTER

	TOTAL	NIE	USOE	PHS/NIH	OTHER DHEW	OTHER FED.
Total	$295,041,146 (100%)	$45,456,561 (100%)	$207,889,567 (100%)	$25,327,754 (100%)	$14,826,145 (100%)	$1,541,119 (100%)
SEA	20,775,845 (7%)	2,241,274 (5%)	18,269,206 (9%)	20,451 (0%)	244,914 (2%)	0
LEA	123,628,174 (42%)	2,104,740 (5%)	120,204,212 (58%)	1,306,722 (5%)	12,500 (0%)	0
Other State & Local Governments	11,096,688 (4%)	4,506,816 (10%)	3,434,454 (2%)	1,738,543 (7%)	1,416,875 (10%)	0 0
Non-Profit	49,503,179 (17%)	22,224,883 (49%)	19,686,385 (9%)	4,246,640 (17%)	4,925,707 (33%)	170,130 (11%)
Profit-Making	14,607,075 (5%)	2,160,523 (5%)	8,635,047 (4%)	466,234 (2%)	2,623,053 (18%)	722,218 (47%)
Academic Organizations	54,912,284 (19%)	11,918,280 (26%)	24,313,903 (12%)	14,021,269 (55%)	4,077,678 (28%)	581,154 (38%)
Other	13,479,454 (5%)	295,045 (1%)	11,745,382 (6%)	3,527,895 (14%)	1,525,418 (10%)	67,617 (4%)

Summary

The following very general comments summarize the findings:

(1) The majority of the education research R & D funds were spent by the USOE for demonstration by local education agencies of innovative educational services for specially defined target populations.

(2) NIE supported non-profit[4] and academic organizations for the development, and to a lesser extent, the demonstration and evaluation, of educational services.

(3) The PHS/NIH agencies supported academic and non-profit organizations conducting basic research on child or adolescent development, and to a lesser extent, the demonstration of health care.

(4) The other DHEW Agencies supported education research on various health and welfare services, including day care, which was conducted by profit, non-profit and academic organizations.

(5) The other Federal Agencies, providing only a small portion of the education R & D funds, supported some studies in child development, health and welfare services, and educational services, performed by academic or profit making organizations.

More detailed analysis of specific issues related to education R & D follows in Chapters II and III.

---

[4] Of the funds going to non-profit organizations in FY 1975, approximately 40% were awarded to educational Laboratories.

BEST COPY AVAILABLE

Comments on Interpretation

This overview of Federal education research and development demonstrates the utility of project level data in describing different aspects of the Federal R & D effort. However, the interpretation is complicated by several factors. First, the categories in several areas of the classification are not mutually exclusive, permitting a single project or its funds to appear in more than one category. This was true for the funds reported for the special populations, where a single project could have a set of special populations such as the demonstration of a counseling program for delinquent, school dropout, or runaway youth. However, such overlapping is necessary to accurately portray the full range of project characteristics. When possible, a forced first choice such as primary focus is used to artificially reduce the duplication. A second interpretive problem arises from the fact that reported funds are those actually distributed by the agency that year (FY '75) for that project. The period of time covered by the funds can vary from months to several years. Standardization of the funds by time period would be helpful. Finally, the differences among agencies in the amount and type of information required in each proposal results in more complete classification of some projects than others. In this analysis only items which were equally available from all agencies were used.

CHAPTER II

A COMPARISON OF NIE-USOE EDUCATION RESEARCH AND DEVELOPMENT[5]

Introduction

A fundamental precept of the Interagency Panels for Research and Development on Early Childhood and Adolescence is that an understanding of the research emphases of each member agency can contribute to the process of formulating policies designed to maximize the effectiveness of the Federal support of research and development. For this reason, the National Institute of Education is investigating the education-related research and development efforts of other agencies. This section of the report examines the respective characteristics of the research and development support by the United States Office of Education and the National Institute of Education, in terms of variables of concern in policy planning. It is important to note that all projects sponsored by NIE and USOE were included in this analysis regardless of whether they met the "education" definition presented in Appendix C. Likewise, all active projects were included, regardless of funding year. The former condition results in the funding figures being larger in Chapter II than in Chapter I.[6] This analysis may be of interest to other agencies because of the implications for the field of education and also because of the methodology, which isolates the aspects on which the agencies differ and could be expanded to examine additional agencies as required.

Characteristics Differentiating NIE and USOE

While a wide variety of project characteristics which could be used to describe differences between NIE and USOE were available (see Appendix D), those deemed relevant fall into six major dimensions:

I. Kind of research: the fundamental type of research activity
II. Type of performing organization
III. Primary focus: the primary substantive topic of the research
IV. Target population characteristics
V. Secondary substantive areas:
    A. Kinds of educational services studied
    B. Curriculum areas studied

---

[5] Comparisons between these and other agencies are found in the tables delivered to NIE and will be reported separately by NIE.

[6] The number of projects not receiving funds in FY 1975 reflect activities funded in previous years; in the case of NIE, they largely reflect the one-time research grants competition held in FY 1974.

VI. Other variables deemed likely to differentiate the two agencies:

A. Use of teaching methods

B. Use of instructional materials

C. Parent involvement

D. Inclusion of a dissemination effort

Dimensions I, II, and II are attributes with multiple categories on which every project has a single value; dimensions IV, V, and VI consist of a series of characteristics, coded dichotomously, which may or may not be associated with each project. The variables chosen may not be optimal, but they were selected on the basis of their interest to the Research and Development System Support Division in NIE which funded this particular analysis.

Methodology

The analysis first looks at the effectiveness of these variables operating individually and independently in differentiating between NIE and USOE. Next the interactions among these variables which contribute to the explanation of differences are identified by Automatic Interaction Detection (AID) analysis. Finally, a regression analysis is used to determine the extent to which the statistically significant interactions identified by AID exhibit explanatory power when their effects on the entire population of NIE-USOE projects are measured. Thus, the differences between the two agencies can be described in terms of the statistical significance and explanatory power of single variables and interactions of correlated variables. A detailed discussion of the methodology appears in Appendix E.

Zero Order Correlations

Table X displays the marginals and column percentages for each variable in these six dimensions for OE and NIE, as well as the χ^2, and the proportion of the sum of squares explained by the variable (R^2). All but three variables were significant ($\alpha = .01$ level), and twelve of the 24 variables each explained more than 5% of the total sum of squares. Figure 1 presents the rank of these twelve variables by their explanatory power.

It should be pointed out here that no attempt is made to infer from the sample, characteristics of the underlying population from which this sample was taken. Indeed, in interpreting this data, one must recognize the potential for bias introduced by among other factors, the qualification procedure used during data collection. Therefore, the reader must approach the χ^2 and R^2 values with caution: their inclusion here is to assist the reader in interpretation of the sample and its various inter-relationships. No attempt is made, however, to generalize these results to any underlying phenomena, and therefore use in an inferential context would be improper.

It is not surprising to observe that the kind of research explains 32%

of the variation[7] between agencies, as this is a direct reflection of differing agency mandates. Several of the Federal statutes governing the activities of the Office of Education call for the development and demonstration of educational services for the solution of specific educational problems. Examples are the activities of the Right-to-Read Effort and the Division of Bilingual Education. In contrast, one of the four mandates of the National Institute of Education calls for the "support of scientific inquiry into the educational process"[8] for the purpose of developing the knowledge base necessary for improving American education. As a result, NIE supports substantially greater amounts of basic research, evaluation, and research support activities. Differing mandates also contribute to the explanation of the power of the two target population variables, *all children* and *bilingual children*, and of the *parent involvement* variable. Many of the large OE development and demonstration programs are directed at target populations selected on the basis of a specific educational need and require parent involvement in the services developed. The more general NIE mission of investigating all aspects of the educational process results in a much larger percentage of NIE's research directed at benefiting children in general.

Effects of the mandates may also be contributing less directly to the statistical significance of both performing organization and primary substantive focus of the research in explaining agency differences. Both the very heavy emphasis on educational services as a primary focus within OE (1,419 of 1,536 projects) and the large number of OE projects performed by local education agencies reflect the emphasis on providing immediate solutions to specified problems. The NIE research directed proportionately more support than OE to studies focused primarily on child or adolescent development, especially cognitive development, and on methodological issues related to improving the quality of educational research. It follows logically that research with these primary areas of study would be conducted in large part by academic institutions.

---

[7] The rather fine distinction between variation and variance is explained in Appendix E..

[8] *The National Institute of Education: A Brief Outline of Its History, Status, and Tentative Plans*, USDHEW, Washington, D.C., February 23, 1975.

TABLE X

ZERO ORDER CORRELATIONS BY DIMENSION*

I. Kind of Research

	NIE	OE	Chi-Squared	R^2
Basic Research	105 (26.1)	28 (1.8)	706.9	.321
Development	84 (20.8)	260 (16.9)		
Pilot-Demonstration	50 (12.4)	1124 (73.2)		
Evaluation	56 (13.9)	38 (2.5)		
Other Applied Research	44 (10.9)	47 (3.1)		
Policy Research	13 (3.2)	11 (.7)		
Research Support	51 (12.7)	28 (1.8)		
Total Projects	403	1536		

---

* Frequencies then column percentages are shown for each category.

II. Performing Organization

	NIE	OE	Chi-Squared	R^2
Academic Organization	219 (54.3)	252 (16.4)		
State Education Agency	38 (9.4)	123 (8.0)		
Local Education Agency	26 (6.5)	775 (50.5)		
Other State & Local Gov't	9 (2.2)	34 (2.2)	391.9	.179
Non-Profit Organization	78 (19.4)	157 (10.2)		
For-Profit Organization	21 (5.2)	34 (2.2)		
Other Organization	12 (3.0)	157 (10.2)		
Not Reported	0 (0)	4 (.3)		
Total Projects	403	1536		

III. Primary Focus of Research

	NIE	OE	Chi-Squared	R^2
General Child/Adolescent Dev.	10 (2.5)	4 (.3)	446.5	.173
Physical Development	4 (1.0)	4 (.3)		
Cognitive Development	49 (12.2)	39 (2.5)		
Social/Emotional Development	16 (4.0)	7 (.5)		
The Family	2 (.5)	5 (.3)		
The Neighborhood	0 (0)	1 (.1)		
The Broad Social Environment	15 (3.7)	1 (.1)		
Research Methods	39 (9.7)	15 (1.0)		
Health/Welfare Services in Gnrl.	0 (0)	17 (1.1)		
Day Care	0 (0)	4 (.3)		
Health Care	0 (0)	11 (.7)		
Protective Services	0 (0)	8 (.5)		
Educational Services in General	175 (43.4)	432 (28.1)		
Special Education	7 (1.7)	303 (19.7)		
Early Childhood Education	3 (.7)	48 (3.1)		
Elementary Education	28 (6.9)	445 (29.0)		
Secondary Education	33 (8.2)	149 (9.7)		
Post-Secondary Education	22 (5.5)	3[illegible] (2.3)		
Alternative Education	0 (0)	7 (.5)		
Juvenile Justice	0 (0)	1 (.1)		
Total Projects	403	1536		

IV. Target Population

All Children

	NIE	OE	Chi-Squared	R^2
Children with Special Characteristics	19 (4.7)	827 (53.8)	311.3	.161
All Children	384 (95.3)	709 (46.2)		
Total Projects	403	1536		

Physically Handicapped Children

	NIE	OE		
Handicapped	3 (.7)	230 (15.0)		
Not Handicapped	400 (99.3)	1306 (85.0)	59.8	.031
Total Projects	403	1536		

Mentally Retarded Children

	NIE	OE		
Retarded	4 (1.0)	154 (10.0)		
Not Retarded	399 (99.0)	1382 (90.0)	33.6	.017
Total Projects	403	1536		

Learning Disabled Children

	NIE	OE		
Disabled	4 (1.0)	149 (9.7)		
Not Disabled	399 (99.0)	1387 (90.3)	32.1	.017
Total Projects	403	1536		

Bilingual Children

	NIE	OE		
Bilingual	12 (3.0)	417 (27.1)		
Not Bilingual	391 (97.0)	1119 (72.9)	106.8	.055
Total Projects	403	1536		

V. Secondary Substantive Areas

A. Educational Services Studied

Special Education

	NIE	OE	Chi-Squared	R^2
Special Education	9 (2.2)	327 (21.3)	79.6	.041
Not Special Education	394 (97.8)	1209 (78.7)		
Total Projects	403	1536		

Preschool Education

	NIE	OE	Chi-Squared	R^2
Preschool Education	8 (2.0)	177 (11.5)	32.6	.017
Not Preschool Education	395 (98.0)	1359 (88.5)		
Total Projects	403	1536		

Primary Grades

	NIE	OE	Chi-Squared	R^2
Primary Grades	100 (24.8)	662 (43.1)	44.0	.023
Not Primary Grades	303 (75.2)	874 (56.9)		
Total Projects	403	1536		

Middle Grades

	NIE	OE	Chi-Squared	R^2
Middle Grades	90 (22.3)	416 (27.1)	3.5	.002
Not Middle Grades	313 (77.7)	1120 (72.9)		
Total Projects	403	1536		

Junior High School Grades

	NIE	OE	Chi-Squared	R^2
Junior High	79 (19.6)	348 (22.7)	1.6	.001
Not Junior High	324 (80.4)	1188 (77.3)		
Total Projects	403	1536		

High School Grades

	NIE	OE		
High School	93 (23.1)	329 (21.4)	0.4	.000
Not High School	310 (76.9)	1207 (78.6)		
Total Projects	403	1536		

B. Curriculum Topic Studied

Any Educational Curriculum

	NIE	OE		
Educational Curriculum	167 (41.4)	1283 (83.5)	297.6	.154
Not Educational Curriculum	236 (58.6)	253 (16.5)		
Total Projects	403	1536		

Basic Academic Curriculum

	NIE	OE		
Basic Curriculum	664 (16.9)	845 (55.0)	189.8	.098
Not Basic Curriculum	337 (83.6)	691 (45.0)		
Total Projects	403	1536		

Cultural Awareness Curriculum

	NIE	OE	Chi-Squared	R^2
Cultural Curriculum	7 (1.7)	447 (29.1)	131.8	.068
Not Cultural Curriculum	396 (98.3)	1089 (70.9)		
Total Projects	403	1536		

Career Education Curriculum

	NIE	OE		
Career Curriculum	4 (1.0)	156 (10.2)	34.2	.018
Not Career Curriculum	399 (99.0)	1380 (89.8)		
Total Projects	403	1536		

Health/Drug/Sex Education Curriculum

	NIE	OE		
Health Curriculum	6 (1.5)	245 (16.0)	58.0	.030
Not Health Curriculum	397 (98.5)	1291 (84.0)		
Total Projects	403	1536		

Vocational Education Curriculum

	NIE	OE		
Vocational Curriculum	13 (3.2)	176 (11.5)	23.7	.012
Not Vocational Curriculum	390 (96.8)	1360 (88.5)		
Total Projects	403	1536		

VI. Other Variables

A. Teaching Methods Studied

	NIE	OE	Chi-Squared	R^2
Teaching Methods Studied	153 (38.0)	1021 (66.5)	107.4	.055
Teaching Methods Not Studied	250 (62.0)	515 (33.5)		
Total Projects	403	1536		

B. Instructional Materials Studied

	NIE	OE		
Instructional Materials Studied	42 (10.4)	838 (54.6)	249.1	.128
Instructional Mat. Not Studied	361 (89.6)	698 (45.4)		
Total Projects	403	1536		

C. Parent Involvement in Education Program Studied

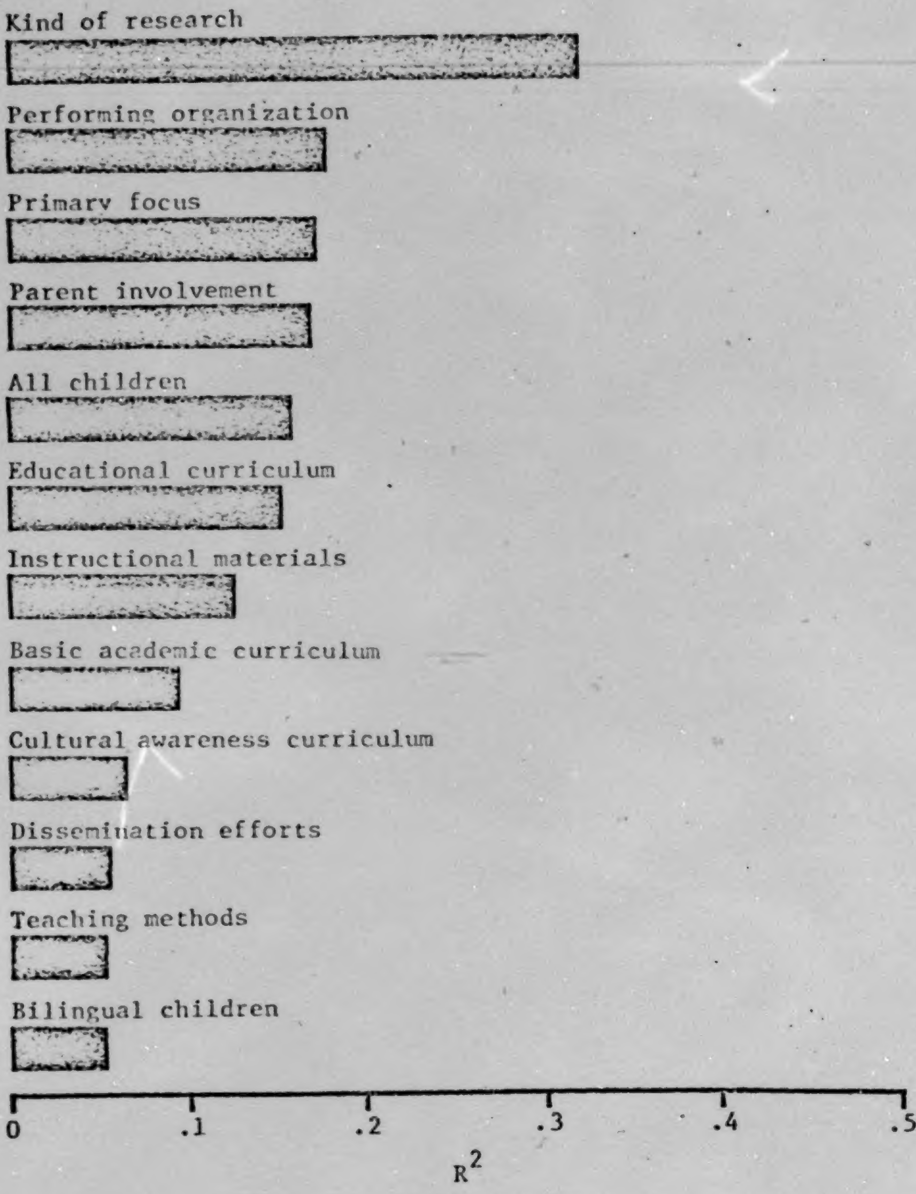
	NIE	OE		
Parent Involvement Studied	18 (4.5)	849 (55.3)	331.3	.171
Parent Involvement Not Studied	385 (95.5)	687 (44.7)		
Total Projects	403	1536		

D. Dissemination Efforts Included in Project

	NIE	OE		
Dissemination Included	74 (18.4)	736 (47.9)	113.4	.058
Dissemination Not Included	329 (82.6)	800 (52.1)		
Total Projects	403	1536		

FIGURE 1

RANKED ZERO ORDER CORRELATIONS*



* Table includes only those predictors for which R^2 is greater than 5% and X^2 is significant ($\alpha = .01$).

Table XI presents the funding amounts allocated by NIE and USOE to each variable category used in the analysis, as well as the percentage of each agency's funds represented by that amount. The rest of the analysis in this chapter uses the project as the unit of analysis, due to the stability of that unit. Funding amounts do not measure expenditures over a predefined time period, but rather the amount awarded in any fiscal year for all of that year, part of that year, or for several years. However, a comparison of this table with Table X can point out some of the areas in which the difference between percent of agency projects and percent of agency funds is greatest. The variables on which the difference between percentage of projects and percentage of funding were most substantial are shown in Table XII. This comparison is useful when contrasting analyses of funding with analyses based on numbers of projects.

TABLE XI

FUNDING AND PERCENT OF AGENCY FUNDS BY DIMENSION*

I. Kind of Research

	NIE	OE
Basic Research	$ 855,759 (1.8%)	$ 1,179,744 (.6%)
Development	18,704,558 (40.1)	28,401,358 (13.5)
Pilot-Demonstration	7,871,210 (16.9)	163,822,311 (78.1)
Evaluation	8,110,074 (17.4)	10,356,938 (4.9)
Other Applied Research	5,894,430 (12.6)	2,270,615 (1.1)
Policy Research	533,867 (1.1)	1,151,455 (.5)
Research Support	4,675,403 (10.0)	2,670,690 (1.3)

*Funding, then percentage of agency funds, are shown for each category.

II. Performing Organization

	NIE	OE
Academic Organization	$12,658,679 (27.1%)	$24,448,724 (11.7%)
State Education Agency	2,371,745 (5.1)	18,343,366 (8.7)
Local Education Agency	2,104,740 (4.5)	120,204,212 (57.3)
Other State & Local Gov't	3,327,955 (7.1)	3,329,016 (1.6)
Non-Profit Organization	22,486,483 (48.2)	20,558,311 (9.8)
For-Profit Organization	2,187,069 (4.7)	9,324,584 (4.4)
Other Organization	314,009 (.7)	11,745,382 (5.6)
Not Reported	0	554,217 (.3)

III. Primary Focus of Research

	NIE	OE
General Child/Adolescent Development	$ 161,818 (.3%)	$ 75,000 (0.0%)
Physical Development	234,684 (.5)	204,253 (.1)
Cognitive Development	100,478 (.2)	706,881 (.3)
Social/Emotional Devel.	0	142,005 (.1)
The Family	0	236,100 (.1)
The Neighborhood	0	0
The Broad Social Environment	0	677,200 (.3)
Research Methods	1,675,364 (3.6)	1,399,273 (.7)
Health/Welfare Services in General		3,449,403 (1.6)
Day Care	0	372,314 (.2)
Health Care	0	961,949 (.5)
Protective Services	0	1,221,302 (.6)
Educational Services in General	32,711,824 (70.1)	64,875,651 (30.9)
Special Education	204,739 (.4)	42,620,991 (20.3)
Early Childhood Education	245,969 (.5)	3,125,352 (1.5)
Elementary Education	2,746,853 (5.9)	76,948,223 (36.7)
Secondary Education	7,053,572 (15.1)	11,418,454 (5.4)
Post-Secondary Education	1,510,000 (3.2)	2,874,444 (1.4)
Alternative Education	0	1,078,561 (.5)
Juvenile Justice	0	21,320 (.0)

IV. Target Population

All Children

	NIE	OE
Children with Special Characteristics	$ 6,188,769 (13.3%)	$122,336,001 (58.3%)
All Children	40,456,532 (86.7)	87,517,110 (41.7)

Physically Handicapped Children

	NIE	OE
Handicapped	$ 234,684 (.5)	$ 28,913,602 (13.8)
Not Handicapped	46,410,617 (99.5)	180,939,509 (86.2)

Mentally Retarded Children

	NIE	OE
Retarded	$ 233,145 (.5)	$ 13,738,534 (6.5)
Not Retarded	46,412,156 (99.5)	196,114,577 (93.5)

Learning Disabled Children

	NIE	OE
Disabled	0	$ 12,053,921 (5.7)
Not Disabled	46,645,301 (100.0)	197,799,190 (94.3)

Bilingual Children

	NIE	OE
Bilingual	$ 2,670,892 (5.7)	$ 73,942.767 (35.2)
Not Bilingual	43,974,409 (94.3)	135,910,344 (64.8)

V. Secondary Substantive Areas

A. Educational Services Studied

Special Education

	NIE	OE
Special Education	$ 284,630 (.6%)	$ 44,099,429 (21.0%)
Not Special Education	46,360,671 (99.4)	165,753,682 (79.0)

Preschool Education

	NIE	OE
Preschool Education	$ 3,655,959 (7.8)	$ 16,392,286 (7.8)
Not Preschool Education	42,989,342 (92.2)	193,460,825 (92.2)

Primary Grades

	NIE	OE
Primary Grades	$ 13,379,301 (28.7)	$118,555,767 (56.5)
Not Primary Grades	33,266,000 (71.3)	91,297,344 (43.5)

Middle Grades

	NIE	OE
Middle Grades	$ 10,423,524 (22.3)	$ 61,357,746 (29.2)
Not Middle Grades	36,221,777 (77.7)	148,495,365 (70.8)

Junior High School Grades

	NIE	OE
Junior High	$ 8,878,741 (19.0)	$ 43,989,170 (21.0)
Not Junior High	37,766,560 (81.0)	165,863.941 (79.0)

High School Grades

	NIE	OE
High School	$12,892,320 (27.6)	$ 37,716,707 (18.0)
Not High School	33,752,981 (72.4)	172,136,404 (82.0)

B. Curriculum Topic Studied

Any Educational Curriculum

	NIE	OE
Educational Curriculum	$28,662,993 (61.4)	$180,629,957 (86.1)
Not Educational Curr.	17,982,308 (38.6)	29,223,154 (13.9)

Basic Academic Curriculum

	NIE	OE
Basic Curriculum	$10,523,648 (22.6)	$134,944,809 (64.3)
Not Basic Curriculum	36,121,653 (77.4)	74,908,302 (35.7)

Cultural Awareness Curriculum

	NIE	OE
Cultural Curriculum	$ 908,104 (1.9)	$ 77,525,820 (36.9)
Not Cultural Curriculum	45,737,197 (98.1)	132,327.291 (63.1)

Career Education Curriculum

	NIE	OE
Career Curriculum	$ 7,451,660 (16.0)	$ 16,215,605 (7.7)
Not Career Curriculum	39,193,641 (84.0)	193,637.506 (92.3)

Health/Drug/Sex Education Curriculum

	NIE	OE
Health Curriculum	$ 664,744 (1.4%)	$ 56,678,541 (27.0)
Not Health Curriculum	45,980,557 (98.6)	153,174,570 (73.0)

Vocational Education Curriculum

	NIE	OE
Vocational Curriculum	$ 112,000 (.2)	$ 11,315,452 (5.4)
Not Vocational Curric.	46,533,301 (99.8)	198,537,659 (94.6)

VI. Other Variables

A. Teaching Methods Studied

	NIE	OE
Teaching Methods Studied	$29,947,250 (64.2%)	$157,489.623 (75.0)
Teaching Methods Not Studied	16,698,051 (35.8)	52,363,488 (25.0)

B. Instructional Materials Studied

	NIE	OE
Instructional Materials Studied	$ 15,142,350 (32.5)	$141,721,552 (67.5)
Instructional Materials Not Studied	31,502,951 (67.5)	68,131,559 (32.5)

C. Parent Involvement in Education Program Studied

	NIE	OE
Parent Involvement Studied	$ 1,315,449 (2.8)	$132,740.126 (63.3)
Parent Involvement Not Studied	45,329,852 (97.2)	77,112.985 (36.7)

D. Dissemination Efforts Included in Project

	NIE	OE
Dissemination Included	$ 18,057,051 (38.7%)	$127,577.246 (60.8)
Dissemination Not Incl.	28,588,250 (61.3)	82,275,865 (39.2)

TABLE XII

DIFFERENCES BETWEEN PERCENT OF AGENCY FUNDS AND PERCENT OF AGENCY PROJECTS**

	% of Funds[a]	% of Projects[b]	Difference
NIE			
Basic Research[c]	1.8	26.1	24.3%
Development	40.1	20.8	19.3
Academic Organizations	27.1	54.3	27.2
Non-Profit Organizations	48.2	19.4	28.8
Educational Services in General	70.1	43.4	26.7
Educational Curriculum	61.4	41.4	20.0
Career Education Curriculum	16.0	1.0	15.0
Teaching Methods	64.2	38.0	26.2
Instructional Materials	32.5	10.4	22.1
Dissemination	38.7	18.4	20.3

[**] Differences of less than 15% were not included. No USOE differences greater than 15% were found.

[a] Percentages are based on funds obligated in FY75.

[b] Percentages are based on all NIE projects included in the IRIS data system active or funded.

[c] The low funding and high project figures in basic research are largely a reflection of the one-time research grants competition funded in FY 1974.

Multivariate Analysis

The initial multivariate question was "to what extent do these variables operate in combination (interactively) to explain agency differences?" The AID technique, described in Appendix E, sequentially partitioned the projects into subgroups. Partitioning was done on the basis of the variable which yielded the greatest difference between the means of the two resulting subgroups. Thus, the process identifies subgroups least alike in terms of the criterion, i.e., NIE support.

Figure 2 illustrates the pattern by which the partitioning took place and identifies twelve interactions which significantly discriminate between NIE and USOE. Since NIE projects were arbitrarily assigned a value of one and USOE projects a value of zero, the value shown on the scale at the bottom of Figure 2 represents the proportion of NIE projects in each group. The attributes of the twelve final groups (interactions) include all of those which appeared earlier in the splitting process represented by this "tree."

It should be noted that AID uses the "t" statistic in a different capacity than that in which it conventionally occurs. AID makes no attempt to use "t" in its inferential capacity: rather, it is used as a criterion for splitting termination. If a given parent group is about to split into two subgroups whose means are not significantly different (as defined by "t"), then this split is not made. Thus, "t" is being used to determine the point at which the splitting process should terminate, and should not be interpreted in its inferential capacity.

Of the twelve interactions, four were especially powerful in discriminating between NIE and USOE:

(1) The most powerful group by far was Group 20 which explained 32% of the total variation among projects. This group indicates that 41% of all NIE projects could be described as: basic, general applied, evaluation, or policy research and research support that was performed by academic or non-profit organizations for children in general and was not investigating educational curricula. Less than 1% of all OE projects fell into this category.

(2) Group 21, similar in attributes to Group 20, except that the constituent projects were investigating educational curricula, was a much less powerful predictor, explaining 7% of the total variation among projects. However, 15% of all NIE compared to 1.5% of all OE projects are in this group.

Figure 2

Optimal Partitioning of NIE-USOE Projects

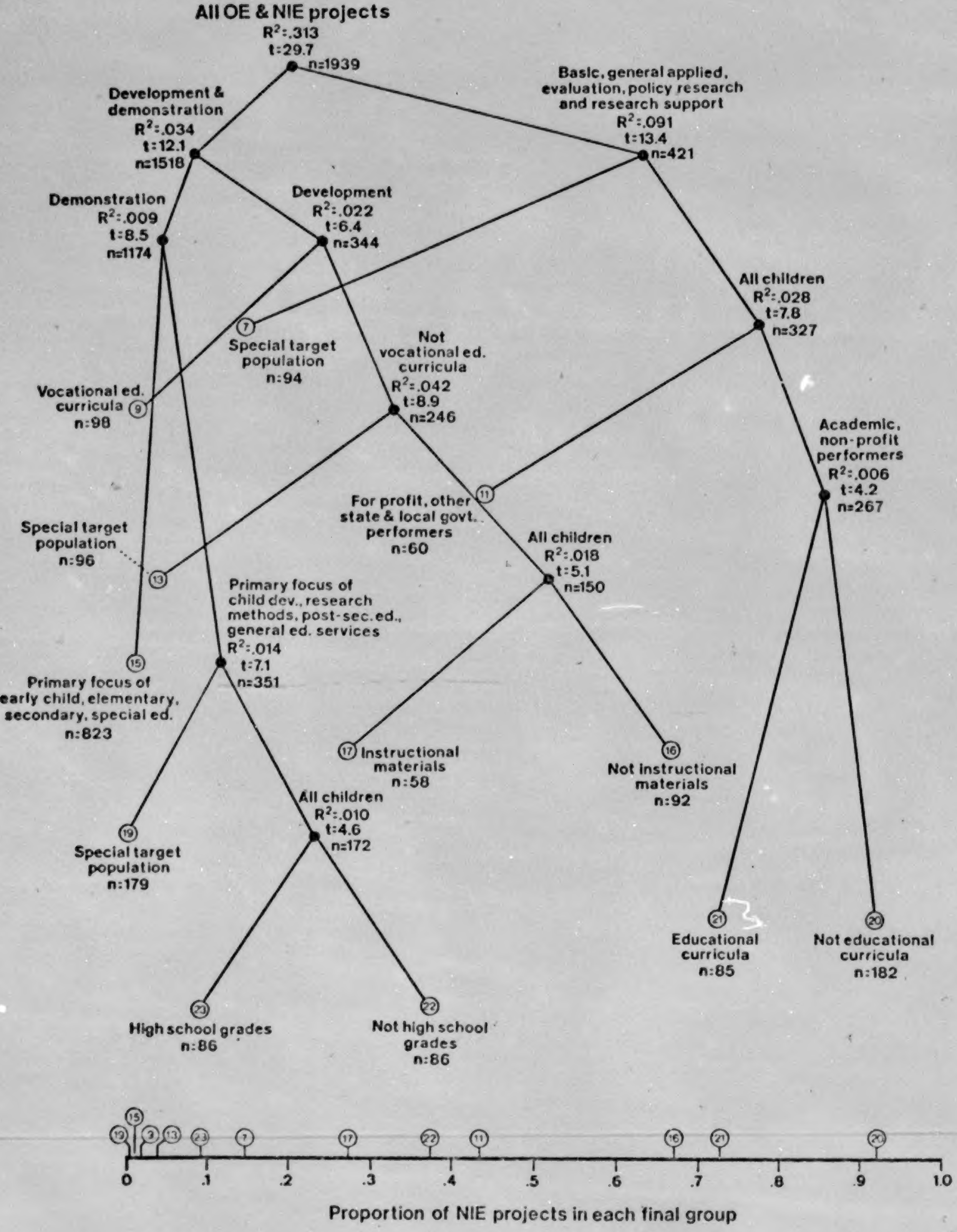

All OE & NIE projects
R^2:.313
t:29.7
n:1939
Development & demonstration
R^2:.034
t:12.1
n:1518
Basic, general applied, evaluation, policy research and research support
R^2:.091
t:13.4
n:421
Demonstration
R^2:.009
t:8.5
n:1174
Development
R^2:.022
t:6.4
n:344
All children
R^2:.028
t:7.8
n:327
7
Special target population
n:94
Not vocational ed. curricula
R^2:.042
t:8.9
n:246
9
Vocational ed. curricula
n:98
Academic, non-profit performers
R^2:.006
t:4.2
n:267
11
For profit, other state & local govt. performers
n:60
Special target population
n:96
13
All children
R^2:.018
t:5.1
n:150
Primary focus of child dev., research methods, post-sec. ed., general ed. services
R^2:.014
t:7.1
n:351
15
Primary focus of early child, elementary, secondary, special ed.
n:823
17
Instructional materials
n:58
16
Not instructional materials
n:92
All children
R^2:.010
t:4.6
n:172
19
Special target population
n:179
21
Educational curricula
n:85
20
Not educational curricula
n:182
23
High school grades
n:86
22
Not high school grades
n:86
19
15
9
13
23
7
17
22
11
16
21
20
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
Proportion of NIE projects in each final group

Figure 3
Percentage of NIE Projects in Final Groups

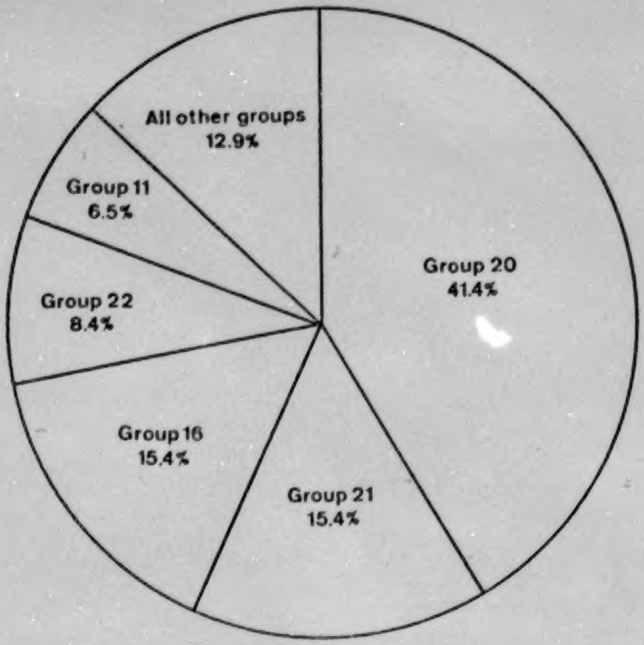
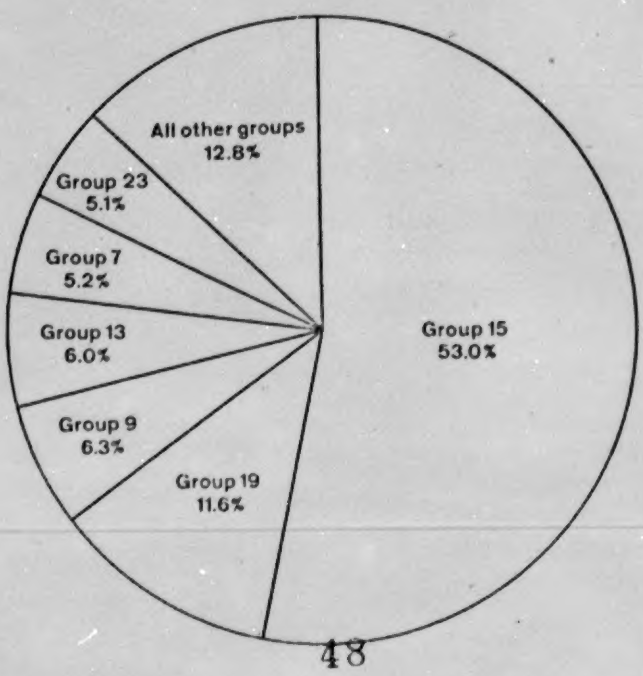


Figure 4
Percentage of USOE Projects in Final Groups



(3) At the OE end of the continuum, Group 15 indicates that 53% of all OE projects were demonstrations focused primarily on early childhood, elementary, secondary, or special education services, while only 2.2% of all NIE projects could be so described. This set of attributes explained 17% of the variation among projects.

(4) Development projects, targeted on children in general, which do not include research on vocational education curricula or instructional materials fall into Group 16 which explained 6% of the variation. Over 15% of all NIE projects shared these characteristics while only 2% of the OE projects could be so classified.

Figures 3 and 4 illustrate the percentage of each agency's projects which fall into the twelve significant interactions and present a profile of the education research and development supported by each agency.

Thus, AID identified a series of interactions, each of which has significance and power in explaining agency differences.

The second multivariate question is "what is the relative weight of these interactions in explaining the variation among projects across the entire population of projects?" The results of the regression analysis can be seen in Table XIII. Six of the twelve interactions explained 58% of the variation among projects. The characteristics identified by Group 20, representing a set of projects investigating general education processes, continued to be the most powerful differentiator with a Beta weight almost double that of the next two interactions. The educational curriculum studies dimension, represented by Group 21, and the general educational program development projects included in Group 16, each explained additional 10% of the variation, becoming more powerful predictors when their effect across all projects is considered by the regression. Figure 5 ranks the interactions by their explanatory power.

Figure 5
Multivariate Interactions Ranked by Explanatory Power

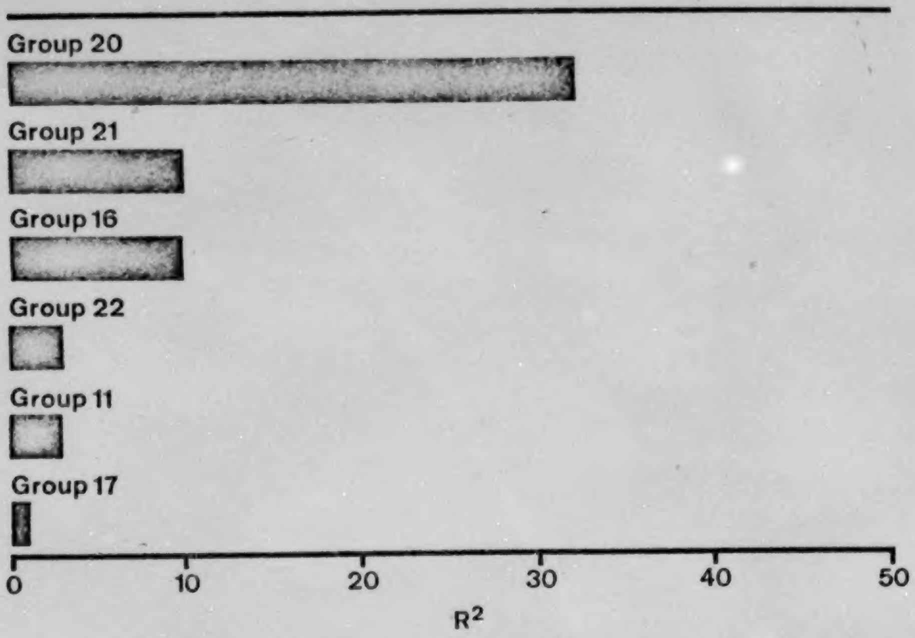


TABLE XIII

REGRESSION ON AID-IDENTIFIED INTERACTIONS
A SUMMARY TABLE

Variable	Cumulative	RSQ change	Beta
Group 20	.32	.32	.65
Group 21	.42	.10	.36
Group 16	.52	.10	.35
Group 22	.54	.03	.18
Group 11	.57	.03	.18
Group 17	.58	.01	.11
*			

*All other groups contributed less than 1% of R^2.

Summary

Several dimensions can be identified which differentiate between the R & D projects supported by NIE and USOE.

(1) A larger proportion of the NIE projects than OE were general educational process studies, defined as research other than development and demonstration, which were typically performed by non-profit or academic organizations and designed to benefit children in general.

(2) A large proportion of the USOE projects were educational curriculum studies of various kinds.

(3) A greater proportion of NIE projects of all kinds were directed at children in general, rather than at special target populations.

Agency Comparisons by Issue

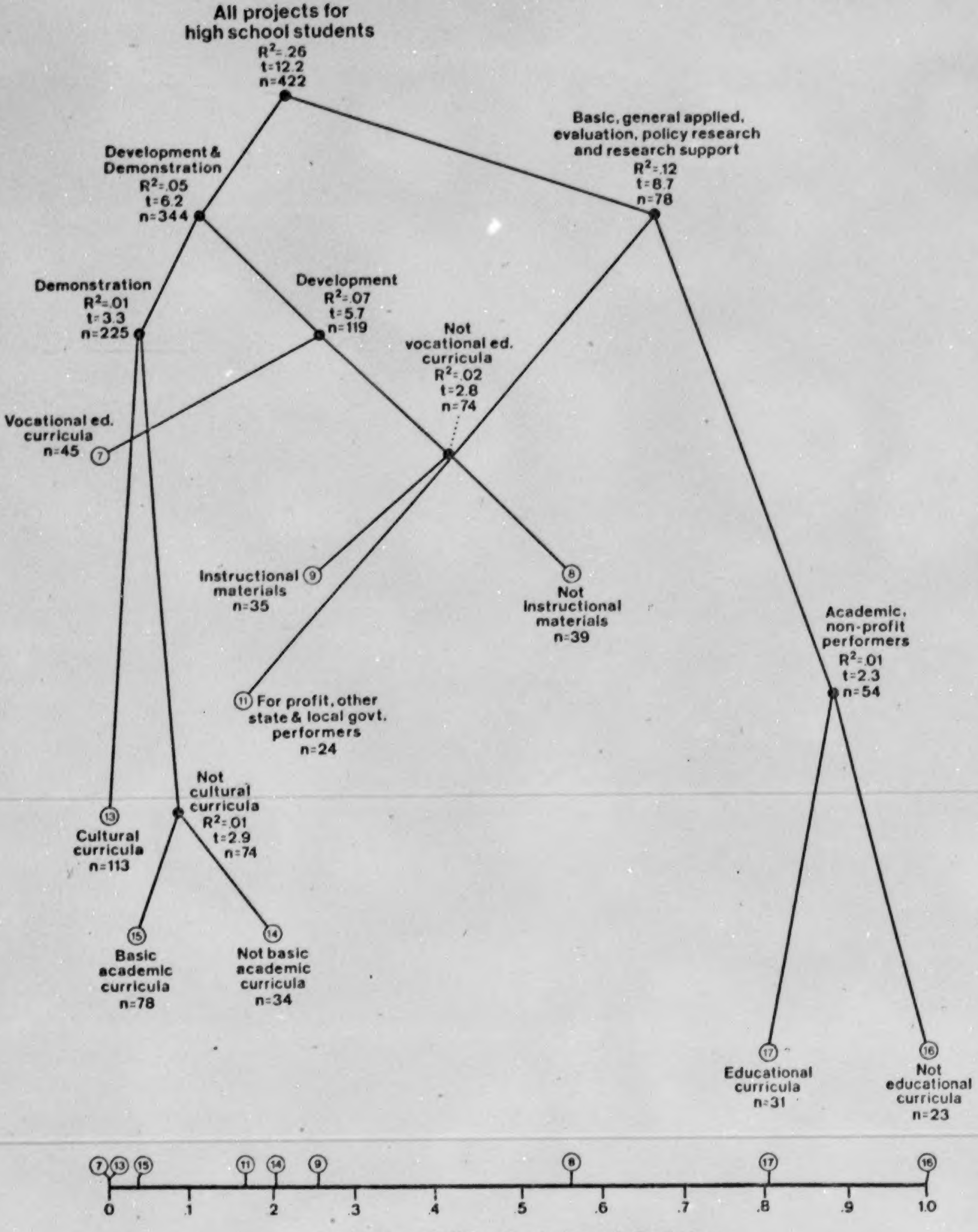
The multivariate analysis approach used above can be easily adapted to the consideration of differences between agencies on specific issues. For example, it could be used to answer questions such as "since both NIE and USOE direct approximately one quarter of their projects to the needs of high school students, are these duplicative efforts? If not, how do these projects differ?" Other comparisons might contrast the projects for bilingual children or the education curriculum studies. To demonstrate the utility of this approach, the comparison of projects for high school students (grades 9-12) funded by NIE and USOE follows.

Figure 6 represents the partitioning of the 422 NIE and USOE projects for high school students into subgroups which identify significant interactions among the variables in predicting differences between USOE and NIE in this population of projects. The mean, shown on the scale at the bottom of the figure, represents the percentage of NIE projects in each group. The attributes of the nine final interactions combine those which appear earlier in the splitting process.

Of the nine final groups, four explained at least ten percent of the variation among projects:

Figure 6

Comparison of NIE and USOE Projects for High School Students


All projects for high school students
R^2=.26
t=12.2
n=422
Development & Demonstration
R^2=.05
t=6.2
n=344
Basic, general applied, evaluation, policy research and research support
R^2=.12
t=8.7
n=78
Demonstration
R^2=.01
t=3.3
n=225
Development
R^2=.07
t=5.7
n=119
Not vocational ed. curricula
R^2=.02
t=2.8
n=74
Vocational ed. curricula
n=45
⑦
Instructional materials
n=35
⑨
⑧
Not instructional materials
n=39
Academic, non-profit performers
R^2=.01
t=2.3
n=54
⑪
For profit, other state & local govt. performers
n=24
Not cultural curricula
R^2=.01
t=2.9
n=74
⑬
Cultural curricula
n=113
⑮
Basic academic curricula
n=78
⑭
Not basic academic curricula
n=34
⑰
Educational curricula
n=31
⑯
Not educational curricula
n=23
⑦ ⑬ ⑮ ⑪ ⑭ ⑨ ⑧ ⑰ ⑯
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
Proportion of NIE projects in each final group

(1) Group 16, explaining 20.4% of the variation, consisted of NIE projects which were research other than development and demonstration performed by academic or non-profit organizations and not studying educational curriculum. No USOE projects had this set of attributes.

(2) Group 17, explaining an additional 15.8% of the variation, contained projects similar to those of Group 16, except that the projects were studying educational curricula. Of all NIE projects, 27% had this set of characteristics, compared to 1.8% of all USOE projects considered.

(3) Group 8 projects were those development efforts which were not studying instructional materials or vocational education curricula. Twenty-four percent of all the NIE projects for high school students were in this group, compared to 5% of the USOE projects, explaining 14.3% of the variation.

(4) Group 13 contained only USOE projects (113) characterized as demonstrations of cultural education curriculum and explained 10.3% of the variation.

Seventy of the 93 NIE projects fell into Groups 17, 16, or 8, while more than one third of the 329 USOE projects fell into Group 13. It can be seen that these results are similar to those of the comparison of all NIE-USOE projects. The kind of research and educational curricula were again powerful predictors and the dimensions of general educational process studies and educational curriculum studies again emerged as differentiators.

When the explanatory power of the significant interactions is ranked by the regression analysis, Group 16 consisting of general educational process studies explained 22% of the variation among projects and had a Beta weight almost twice that of the next most powerful predictor, Group 17. Group 17, consisting of attributes similar to Group 16 except that education curricula are being studied, explained 9% of the variation.

TABLE XIV

REGRESSION ON AID-IDENTIFIED INTERACTIONS

A SUMMARY TABLE

Variable	R^2	R^2 Change	Beta
Group 16	.22	.22	.39
Group 17	.32	.09	.23
Group 11	.34	.02	.07
Group 13	.35	.01	-.24
Group 15	.36	.01	-.18
Group 14	.39	.02	-.18

Summary

The kind of research associated with the projects sponsored by each agency continued to be the most powerful explanation of difference between USOE and NIE. In addition, four of the variables from the curriculum dimension were significant components of the interactions distinguishing between the agencies. In each case the study of curriculum was an attribute that characterized OE projects when compared with similar NIE projects. Finally, among projects not conducting development and demonstration activities, those performed by academic or non-profit organizations were more frequently supported by NIE than USOE.

This comparison demonstrates the technique for comparing two agencies on a specific issue. The results in this case were similar to that of the original comparison of NIE-USOE because (1) the high school variable is not highly correlated with the criterion and (2) the high school variable is not highly correlated with a powerful predictor which could suppress its predictive power. The technique would yield very different results in those cases in which the variable representing the critical issue was interacting with others in the analysis.

CHAPTER III

CURRICULUM DEVELOPMENT

Introduction

A primary policy concern of the National Institute of Education is the Federal role in curriculum development, a concern reflected in the recommendations of the Report of the NIE Curriculum Development Task Force.[9] The report recommended that "NIE should study the manner in which curriculum development and change take place in the U.S. ..."[10] An analysis of the project level data in the IRIS system describes the Federal curriculum support in FY '75[11] and, in particular, is useful in examining the following questions:

- How are funds for curriculum development distributed across Federal agencies?
- How does NIE allocate its development funds across target populations (special characteristics)?
- How does NIE allocate its development funds across target populations having different demographic characteristics?
- How has NIE distributed its development funds across subject areas?
- To what extent has NIE funded diverse curriculum performers?
- What types of programs has NIE developed for what types of target populations (broken down by both special characteristics and demographic characteristics)?
- How does NIE differ from other agencies in its funding of curriculum development? Are there any startling or especially noteworthy aspects of NIE's funding of curriculum development projects? Does its funding differ from that of other Federal agencies in any significant ways? If "yes" to either or both of these questions, what might account for these unexpected patterns?

The data report the funding for projects which include some aspect of curriculum development. The definition of curriculum development used includes all categories of research: basic, applied, demonstration, evaluation, support and utilization, policy research as well as development; as seen in Table XV. Of the $229 million included in the analysis, $204 million went to projects actually studying the effects of curriculum.

---

[9] "A Report and Set of Recommendations Submitted to the National Council on Educational Research in Responding to NCER Resolution 091875-19.3."

[10] Ibid., p. 7

[11] A description of the full set of curriculum development tables produced is provided in Appendix B.

TABLE XV

CURRICULUM FUNDING BY KIND OF RESEARCH

KIND OF RESEARCH	FUNDING
Basic	$ 2,304,786
Development	35,382,234
Pilot or Demonstration	165,868,824
Other Applied Research	9,346,660
Evaluation Research	11,267,621
Support and Utilization	4,303,422
Policy Research	791,941
Total	229,265,488

The categories of curriculum development are not mutually exclusive nor exhaustive. Thus, a project may be studying more than one area, such as reading and science curricula in which case the funds for that project will appear in more than one column. In addition, a project which is studying development of curriculum in sociology, which is not one of the categories in the classification system (see Appendix D: Classification System) will appear in the total curriculum column, but not in any of the other columns. To reduce the overlap introduced by multiple classification, some of the tables present the curriculum development efforts by the following curriculum area clusters:

(1) Basic Academic Curricula which includes math, science, language arts, reading, and social studies.

(2) Vocational/Career Education which combines career and vocational education curricula.

(3) Health/Drug/Sex Education which consists of physical education as well as health and sex education and all alcohol and drug abuse prevention curricula.

(4) Other Specified Curricula which contains cultural awareness education, citizenship education, fine arts education, and environmental studies.

As an additional aid in summarizing the data, the twenty-seven agencies from which data were collected were analyzed in terms of the following agency clusters: (1) NIE, (2) USOE, (3) PHS/NIH, (4) Other DHEW, and (5) Other Federal Agencies. See Table XVI for the list of agencies comprising each cluster.

Curriculum Funds by Agency

"How are funds for curriculum development distributed across Federal agencies?"

Of the 27 agencies from which data were collected, 24 agencies supported curriculum studies. The amount and percentage of total Federal support by each agency and agency cluster is shown below as represented by the Panels' membership.

TABLE XVI

CURRICULUM DEVELOPMENT FUNDS BY AGENCY AND AGENCY CLUSTER

Agency Cluster	Agency	Funding Amount	% of Total Federal Funds	Number of Projects with FY 75 Funding
USOE		$ 180,629,957	78.8%	1037
	Division of Bilingual Education	(67,347,000)	(29.4)	329
	Follow Through	(42,910,143)	(18.7)	149
	Bureau of Education for the Handicapped	(23,770,983)	(10.4)	142
	Office of Indian Education	(11,262,151)	(4.9)	136
	Office of Career Education	(8,166,692)	(3.6)	69
	Bureau of Occupational and Adult Education	(7,224,476)	(3.2)	72
	Division of Educational Technology	(6,773,157)	(3.0)	4
	Office of Planning, Budgeting, and Evaluation	(6,244,390)	(2.7)	14
	Division of Plans and Supplementary Centers	(3,978,948)	(1.7)	60
	Right-to-Read	(2,311,921)	(1.0)	43
	Office of Environmental Education	(640,096)	(.3)	19
NIE				
	National Institute of Education	28,662,993	12.5%	78
PHS/NIH		11,250,425	4.9%	106
	Bureau of Community Health Services	(134,307)	(--)	3
	National Institute of Mental Health	(3,201,708)	(1.4)	39
	National Institute of Child Health and Human Development	(2,872,086)	(1.3)	15
	National Institute on Alcohol Abuse and Alcoholism	(2,541,194)	(1.1)	23
	National Institute on Drug Abuse	(2,501,130)	(1.1)	26
OTHER DHEW		8,080,192	3.5%	55
	Office of Child Development	(7,441,725)	(3.2)	49
	Office of Youth Development	(440,407)	(.2)	4
	Social and Rehabilitation Service	(181,560)	(.1)	1
	Rehabilitation Services Administration	(16,500)	(--)	1
OTHER FEDERAL		641,921	.3%	20
	Department of Labor	(328,265)	(.1+)	4
	Department of Agriculture	(301,256)	(.1+)	15
	ACTION	(12,500)	(--)	1
TOTAL FEDERAL		$229,265,488	100%	1296

During FY '75 a total of $229,265,488 was spent in the area of curriculum development. The major supporters of curriculum development were three agencies in OE--the Division of Bilingual Education, Follow Through, the Bureau of Education for the Handicapped--and the National Institute of Education. These four spent $162.7 million or 71% of the Federal curriculum funds. Other DHEW curriculum studies were supported primarily by the Office of Child Development, and to a lesser extent the Health agencies.

Although these figures are indicative of the cross-agency distribution of curriculum development, they also reflect the limitations of the data base which is restricted to information concerning research on children and youth sponsored by the Interagency Panel member agencies. Thus curriculum development by the National Science Foundation and the Department of Defense, among others, is not represented.

The next six sections examine the NIE allocation of curriculum funds to various target populations, to diverse performing organizations, and by curriculum subject categories. These patterns are contrasted with those of the total curriculum support by all agencies, as well as by other agency clusters.

NIE Funds by Target Population (Special Characteristics)

"How does NIE allocate its development funds across target populations (special characteristics)?"

By far the largest target population receiving the benefit of NIE curriculum development was children without special characteristics, that is, the research was designed to be applicable to children in general regardless of differences among them. In addition, four special populations were the targets of the development projects: (1) school dropouts, (2) the academically slow, including underachievers, and slow learners, (3) bilingual, and (4) gifted children. NIE did not have curriculum development projects directed specifically toward the physically handicapped, mentally retarded, learning disabled, emotionally ill, drug users, runaways or abused/neglected populations.

Table XVII compares the NIE funding for all children and these four special populations with the total funding for these categories.

TABLE XVII

TOTAL FEDERAL AND NIE CURRICULUM DEVELOPMENT BY TARGET POPULATION (SPECIAL CHARACTERISTICS)

Category	% NIE of NIE Tot.[a]	NIE Funding Amount	% NIE of Fed.[b]	Total Federal Funding Amt.	% Federal of Fed.Tot.[c]
All Children	88.4	$25,326,279	21.4	$118,184,577	51.5
School Dropouts	5.3	1,525,420	26.4	5,768,914	2.5
Academically Slow	4.7	1,342,635	19.0	7,049,373	3.1
Bilingual	6.7	1,842,752	2.4	75,384,052	32.9
Gifted	2.6	754,032	40.8	1,848,427	.8

The table shows that NIE devoted a greater percentage of its funds to children in general (all children) and less to bilingual children than did the Federal agencies as a whole. The large amounts for bilingual children came, as expected, from the Division of Bilingual Education and the Office of Indian Education at USOE. However, for curriculum development for the other three special populations, the NIE contribution represents at least 19% of the total Federal funds for each category.

NIE Funds by Demographic Population

"How does NIE allocate its development funds across target populations having different demographic characteristics?"

The funding of projects directed at specific demographic populations is presented by ethnicity, economic status, and residential location. However, it is important to note that not all NIE curriculum projects weredirected at specific ethnic, economic, or residentially defined

---

[a] The percentage of NIE funds for each category:

$$\% = \frac{\text{NIE category funds}}{\text{NIE total funds}} \times 100$$

[b] The precentage of Federal funds in each category supplied by NIE:

$$\% = \frac{\text{NIE category funds}}{\text{Fed.category funds}} \times 100$$

[c] The percentage of Federal funds in each category:

$$\% = \frac{\text{Federal category funds}}{\text{Federal total funds}} \times 100$$

populations and thus only a small proportion of NIE curriculum projects are reflected in these figures. The following tables compare the NIE funding to that of all Federal spending for each target group.

TABLE XVIII

TOTAL FEDERAL AND NIE CURRICULUM DEVELOPMENT BY TARGET POPULATION (DEMOGRAPHIC CHARACTERISTICS)

Category	% NIE of NIE Tot.[a]	NIE Funding Amount	% NIE of Fed.[b]	Total Federal Funding Amt.	% Federal of Fed.Tot.[c]
Ethnicity					
White	2.9	$ 823,699	5.3	$15,461,484	6.7
Spanish Surname	4.8	1,366,161	1.8	75,625,405	33.0
Black	3.6	1,041,179	4.0	26,150,180	11.4
American Indian	3.1	883,927	3.6	24,508,775	10.7
Economic Status					
Primarily Poor	11.0	3,154,593	3.8	83,607,796	36.5
Residential Location					
Urban Area	5.4	1,550,383	3.2	48,288,266	21.1
Suburban	1.8	514,117	11.4	4,510,997	2.0
Rural	16.2	4,641,768	26.4	17,576,828	7.7

NIE directed smaller percentages of its curriculum support to all of these special populations, with one exception, than the Federal agencies as a whole. The exception is rural populations, which were the target for 16.2% of NIE's funds for curriculum projects, which in turn represent 26.4% of the Federal support for this category. Across all agencies the urban, poor and Spanish surnamed received the largest amounts.

NIE Curriculum Development Efforts by Subject Area

"How has NIE distributed its development funds across subject areas?"

---

a, b and c See preceding table footnotes.

NIE funding evidences wide diversity in subject areas of curriculum development. Of the sixteen curriculum areas classified, eleven of them were the subject of NIE projects. Table XIX compares the NIE funding in these eleven areas to the total Federal support for the same areas. No NIE projects were reported for physical education, drug abuse education, sex education, citizenship education, or education for parenthood.

TABLE XIX

TOTAL FEDERAL AND NIE
CURRICULUM DEVELOPMENT
BY SUBJECT AREA*

Curriculum Subject	% NIE of NIE Tot.[a]	NIE Funding Amount	% NIE of Fed.[b]	Total Federal Funding Amt.	% Federal of Fed.Tot.[c]
Math	23.3	$6,685,798	6	$103,718,832	45.2
Social Studies	1.1	303,446	1	41,498,429	18.1
Language Arts	8.2	2,338,343	4	54,204,937	23.6
Reading Curriculum	25.4	7,282,891	8	91,565,657	39.9
Science Curriculum	4.7	1,344,511	4	32,084,152	14.0
Environmental Curr.	8.1	2,331,800	52	4,480,160	2.0
Cultural Awareness	3.2	908,104	1	79,183,746	34.6
Fine Arts	4.8	1,371,687	6	21,405,537	9.3
Vocational Education	.4	112,000	1	12,997,278	5.4
Career Education	26.0	7,451,660	31	24,344,755	10.6
Health Education	2.3	664,744	1	53,823,224	23.5

In two areas, environmental curriculum and career education, the NIE support represented a substantial portion of the Federal funding (52% and 31% respectively). Within NIE, career education, reading, and math received the most support, each receiving approximately 25% of the agency's curriculum funds.

A further comparison of the pattern of NIE curriculum development by subject area compared to the overall Federal pattern can be seen in Table XX in which the curriculum topics are collapsed into general areas to reduce the amount of overlapping funding reported.

---

*The subject areas are not mutually exclusive. A project's funding can appear in more than one row.

a, b, and c See footnotes to Table IV.

TABLE XX
TOTAL FEDERAL AND NIE
CURRICULUM DEVELOPMENT
FUNDS BY AREA

Curriculum Subject	% NIE of NIE Tot.[a]	NIE Funding Amount	% NIE of Fed.[b]	Total Federal Funding Amt.	% Federal of Fed.Tot.[c]
Basic Academic	37	$10,523,648	7	$148,780,261	64.9
Vocational/Career Education	26	7,563,660	22	34,494,484	15.0
Health/Sex/Drug/ Physical Ed.	2	664,744	1	66,497,244	29.0
Other Specified Cur.	16	4,611,591	5	86,378,025	37.7

This summary table indicates a greater percentage of NIE support goes to vocational or career education curricula and less to the other broad curriculum areas, contrasted to the total Federal expenditures.

NIE Curriculum Development Projects By Performing Organization

"To what extent has NIE funded diverse curriculum performers"?

As can be seen from Table XXI NIE curriculum projects were conducted primarily by non-profit organizations such as the regional educational labs and centers and academic organizations, a pattern similar to that of the other DHEW agency cluster. In contrast, the Federal agencies as a whole, and especially USOE, directed more than half of all curriculum funds to local education agencies. No NIE funds were indicated as going to Local Education Agencies by the data; however this may be an artifact of the funding pattern and channels wherein State Education Agencies, which received a small portion of the NIE curriculum funds, passed the dollars on to local agencies. Little curriculum support, either by NIE, USOE or the total Federal agencies went to profit-making organizations.

TABLE XXI

FUNDING OF PERFORMING ORGANIZATIONS BY FEDERAL AGENCIES

	Total Fed.	NIE	USOE	PHS/NIH	Other DHEW	Other Fed.
SEA's	6.2%	4.3%	7.1%	0%	3.0%	0%
LEA's	51.4%	0%	64.6%	11.6%	.2%	0%
Non Profit	15.3%	50.6%	8.5%	15.8%	42.6%	0%
Profit-making	3.8%	5.8%	3.7%	1.4%	0%	42.3%
Academic	12.6%	28.5%	7.7%	38.0%	28.4%	47.4%
Other	10.4%	10.7%	8.3%	33.2%	25.8%	10.2%
No Info.	.2%	0%	.3%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%

NIE Curriculum Development Funds by Target Populations (Demographic and Special Characteristics)

"What types of programs has NIE developed for what types of target populations (broken down by both special characteristics and demographic characteristics)?"

The data base cannot provide program level answers to this question as the unit of analysis is the funded project. However, the funding patterns by target population across curriculum areas can be explained at this point.

As previously discussed, the demographic dimensions of ethnicity, economic status, and residential location are used to describe the target population. Table XXII shows the NIE allocation of funds for each of these populations by the curriculum area being developed.

TABLE XXII

NIE FUNDING FOR CURRICULUM AREAS BY DEMOGRAPHIC CHARACTERISTICS * **

	Basic Academic	Voc./Career Education	Health/ Sex/Drug	Other Specified	Non-Specified Curriculum	Total
Ethnicity						
White	$ 764,699	--	--	--	$ 59,000	$ 823,699
Spanish Surnamed	1,340,609	--	--	243,360	25,552	1,366,161
Black	642,492	230,642	--	--	168,045	1,041,179
American Indian	883,927	--	--	--	--	883,927
Economic Status						
Primarily Poor	1,534,975	230,642	--	243,360	1,388,976	3,154,593
Residential Location						
Urban	977,478	230,642	--	--	342,263	1,550,383
Suburban	514,117	--	--	--	--	514,117
Rural	2,114,295	801,164	664,744	664,744	2,527,473	4,641,768

*Curriculum areas are not mutually exclusive, nor are target populations. Funds may be counted in more than one row or column.

**The characteristics of the target populations are not always available.

The two curriculum areas receiving large amounts of support for demographically defined populations were basic academic and non-specified curriculum, i.e., curriculum in which the subject was one other than that included in the classification system: all the identified special populations, especially rural, poor, and Spanish surnamed, were beneficiaries of development of basic academic curricula. Rural and poor youth were the primary recipients for non-specified and vocational or career education curricula. The populations specified least frequently as the recipients of NIE curriculum development were white, American Indian and suburban children. However, this result is possibly an artifact of the data collection resulting from the fact that some of these children, especially white suburban, would be referred to in proposals only as "children" without clarification.

The above table reveals some of the problems associated with the overlapping coding categories, in that there is obviously the same project or a set of projects in vocational or career education targeted on urban blacks who are primarily poor and the funds appear in each category. Similarly, the projects studying health/drug/sex education and other specified curricula for rural children appear to be the same research. Thus, all figures should be interpreted conservatively and never additively.

TABLE XXIII

NIE AND TOTAL FEDERAL SUPPORT OF CURRICULUM AREAS
BY TARGET POPULATION DEMOGRAPHIC CHARACTERISTICS **

	Total	Basic Academic	Voc./Career Education	Health/ Sex/Drug	Other Specified	Non-Specified
Ethnicity:						
White						
NIE	100 %	93 %	0 %	0 %	0 %	7 %
Total	100	70	14	49	1	11
Spanish Sur-named						
NIE	100	98	0	0	18	2
Total	100	93	8	28	75	3
Black						
NIE	100	62	22	0	0	16
Total	100	73	10	63	6	10
Am. Indian						
NIE	100	100	0	0	0	0
Total	100	58	10	26	53	12
Economic Status:						
Primarily Poor						
NIE	100	49	7	0	8	44
Total	100	86	5	59	24	5
Residential Location:						
Urban						
NIE	100	63	15	0	0	22
Total	100	72	15	32	43	7
Suburban						
NIE	100	100	0	0	0	0
Total	100	41	46	8	2	15
Rural						
NIE	100	46	17	14	14	54
Total	100	52	24	17	30	27

**The characteristics of the target populations are not always available.

NIE curriculum development for specific ethnic populations differed in the following aspects from the total Federal funding pattern, as seen in Table XXIII Across all agencies 70% of the curriculum development for white children or adolescents was in basic academic subjects, while 93% of NIE's projects were in this area. In curriculum development for black students, 62% of NIE projects studied basic academic curricula and 22% vocational or career education, compared to the across all Federal agency figures of 73% and 10% respectively. All of the NIE curricula for American Indians were in basic academic subjects, as opposed to 58% of all Federal support.

The most noticeable difference between NIE curriculum development for special residential locations and that of the total Federal funding patterns was that 100% of the NIE projects indicating suburban target populations involved basic academic subjects, compared to 41% of the total Federal spending for this population. The proportion of basic academic and vocational or career education areas for urban and rural children was similar for NIE and the total Federal support. In general, urban children were the targets of development of more basic academic curricula than were rural children, while the latter were the targets of a greater proportion of career or vocational education than urban children.

Table XXIV shows the support of curriculum development by target populations defined as children in general and children with special characteristics. The

TABLE XXIV

CURRICULUM AREAS BY TARGET POPULATION
SPECIAL CHARACTERISTICS IN DOLLARS

	Basic Academic	Voc./Career Education	Health/ Sex/Drug	Other Specified	Non-Specified Curriculum	Total
Total	10,523,648	7,563,660	664,744	4,611,591	10,005,162	28,662,993
Children in general	9,675,427	6,271,458	664,744	4,368,231	8,808,871	25,216,279
Children with Special Characteristics	2,372,486	1,292,202	--	243,360	1,429,509	5,094,197
School Dropout	--	(1,292,202)	--	--	(233,218)	(1,525,420)
Academically Slow	(1,109,417)	--	--	--	(233,218)	(1,342,635)
Bilingual	(851,200)	--	--	(243,360)	(991,552)	(1,842,752)
Gifted	(549,293)	--	--	--	(204,729)	(754,032)

( ) indicate subsets of children with Special Characteristics.

second section of the table breaks the children with special characteristics down into more detailed categories. Again, the classes are not mutually exclusive and project funds may appear in several rows or columns. Thus, projects working in several areas or for several populations are more heavily weighted than specialized projects.

The most noticeable finding is that in every curriculum area at least four times the support was directed by NIE to children in general compared to children with special characteristics. The curricula for all children were distributed across the areas: 37% basic academic, 26% vocational or career education, 16% other specified, and 2% health/drug/sex education. Curriculum development for the bilingual, gifted and academically slow was in the areas of basic academic and non-specified curricula. In contrast, the primary curricula area for school dropouts was vocational and career education.

Unusual Aspects of NIE Funding of Curriculum Development Projects

"Are there any startling or especially noteworthy aspects of NIE's funding of curriculum development projects? Does its funding differ from that of other Federal agencies in any significant ways? If Yes to either or both of these questions, what might account for these unexpected patterns?"

The NIE support of curriculum development can be contrasted with that of other groups of Federal agencies: The U.S. Office of Education, the Public Health Service and NIH (PHS/NIH), other DHEW agencies and other Federal agencies. The agencies included in these groups are listed in Table XVI. Table XXV shows the percentage of the funds of each agency group that can be assigned to the target population and curriculum areas used for the analysis.

More NIE curriculum funds were designed to benefit rural children than urban, and a very high percentage of funds to all children, patterns shared only by the other Federal agency group. Of the agency clusters, NIE had the lowest percentage of research specifically targeted on primarily poor population. Finally, comparatively less NIE curriculum research appeared to be directed to any specific ethnic group. This contrast is most noticeable in

TABLE XXV

CHARACTERISTICS* OF CURRICULUM DEVELOPMENT PROJECTS ACROSS AGENCY CLUSTER BY THE PERCENTAGE OF AGENCY CLUSTER FUNDS

	Total Fed.	NIE	OE	PHS/NIH	Other DHEW	Other Federal
I. Target Population						
All Children	52%	88%	46%	49%	50%	91%
Dropouts	3	5	2	3	-	2
Academically Slow	3	5	3	5	1	-
Bilingual	33	6	40	2	8	-
Gifted	1	3	1	1	-	-
Rural	8	16	6	5	14	15
Urban	21	5	23	24	37	2
Suburban	2	2	1	6	8	-
Primarily Poor	36	11	42	18	31	75
White	7	3	6	13	18	23
Span. Surnamed	33	5	39	12	20	4
Black	11	4	11	23	29	21
American Indian	11	3	12	21	7	-
II. Curriculum Areas						
Basic Academic	64	37	75	19	15	-
Voc/Career Ed.	15	26	14	8	12	59
Health/Sex/ Drug Ed.	29	2	31	59	29	38
Parenthood Ed.	2	-	1	11	18	-
Other Spec. Curriculum	38	16	45	5	8	-

---

*Characteristics categories are not mutually exclusive.

TABLE XXVI

CURRICULUM FUNDING FOR SELECTED POPULATIONS ACROSS AGENCY CLUSTER

	Total F[illegible]	NIE	OE	PHS/NIH	Other DHEW	Other Federal
I. Target Population						
All Children	100%	21%	70%	5%	3%	0%
Dropouts	100	26	68	5	0	0
Acad. Slow	100	19	72	8	1	0
Bilingual	100	2	76	0	1	0
Gifted	100	41	59	0	0	0
Rural	100	26	63	3	7	1
Urban	100	3	85	6	6	0
Suburban	100	11	59	16	19	0
Primarily Poor	100	4	90	2	3	1
White	100	5	75	10	9	1
Spanish Surnamed	100	2	94	2	2	0
Black	100	4	77	10	9	0
American Indian	100	4	85	9	2	0
II. Curriculum Areas						
Basic Academic	100	7	91	1	1	0
Voc/Career Ed.	100	22	72	3	3	1
Health/Sex/ Drug Ed.	100	1	85	10	3	0
Other Spec. Curriculum	100	5	93	1	1	0
Not specified	100					

the target group of Spanish surnamed which received considerably more support from the other clusters. The patterns of curriculum areas studied are much less consistent across clusters. However, NIE devoted proportionately more of its curriculum development to vocational and career education than the other clusters except the other Federal group, and less to health/drug/sex education than any other group.

Table XXVI illustrates the percentage of support for each curriculum area and target population supplied by each agency cluster. These figures can best be interpreted by recalling from Table XVI that of all Federal curriculum funds 12.5% came from NIE, 78.8% from USOE, 4.9% from PHS/NIH, 35% from other DHEW agencies, and .3% from other Federal agencies. From this perspective, NIE devoted more support to the gifted, school dropouts, rural children and all children than the 12.5% expected and less to bilingual, urban, poor, and specific ethnic populations. In contrast, the major agency funding curriculum development, USOE, directs more funds to bilingual, poor, and Spanish surnamed populations than expected and less to rural, suburban, and gifted children. Both PHS/NIH and the other DHEW agencies support more curriculum projects for white, black, and suburban children than expected.

Only in the curriculum area of vocational and career education did NIE spend more than 12.5% of the Federal support. USOE is proportionately high in its funding of basic academic and other specified curricula.

The factors which might account for these differences among agencies, such as differing agency mandates and policy, are beyond the scope of this paper. However, it is hoped that the data presented here would provide useful material for such an analysis.

CHAPTER IV

FEASIBILITY STUDY: PRINCIPAL INVESTIGATOR DATA

Introduction

Each year, in addition to the research oriented data collected on the projects, information on the educational and demographic characteristics of the principal investigators conducting the research is gathered. The vitae included in the proposal files were the source of most of the information, supplemented by data appearing on the cover sheet.

The principal investigator section of the classification system (see Appendix D) contains five main elements of information:

- Sex of principal investigator
- Highest professional degree awarded
- Location of degree-granting school
- Concentration area of major degree
- Year degree was awarded.

In the course of producing the tables using principal investigator variables specified in the contract (see Appendix B), the large amounts of missing data raised questions about whether or not, or in what context, the principal investigator data should be used. Therefore, the feasibility of using the existing principal investigator data for further analysis was explored. The objective of the analysis was to determine whether or not the presence or absence of data is correlated with any other variables, for example, with funding agency or kind of research.

Findings

As Table XXVII suggests, the omission rate of all principal investigator items except sex ran between 40% and 50%, with 1,413 projects (40% of the total) omitting all P.I. items except sex. The implication here is also borne out by the experience of the field research staff members who collected the data: one of the most pervasive problems of data collection is the omission of the vitae from the project proposals. In many cases, however, the sex of the principal investigator could be inferred from the name contained on the proposal itself. Nearly all of the projects which omitted sex omitted all P.I. data (245 of 271 projects). The missing data appears to be associated with the funding agency and kind of research.

TABLE XXVII

NON-RESPONSE BREAKDOWN
OF PRINCIPAL INVESTIGATOR DATA

Variable	Response	Non-Response
Sex of P.I.	3246	271 (8%)
Degree	2086	1431 (41%)
Location of School Awarding Degree	1891	1626 (46%)
Field of Degree	1796	1721 (49%)
Year of Degree Award	1781	1736 (49%)

As Table XXVIII shows, proposals submitted to several agencies--notably BCHS, NIMH, NICHD, and OPBE--were characterized by relatively high response rates, each with between 77% and 82% of their funded research proposals containing all such items. Additionally, nearly 75% of all "basic research" projects responded to all items.

Examining the potential interactive effects of type, year, or status of funds, kind of research, or performing organization, one sizeable group was identified which had all P.I. data for 89% of the projects. This group consisted of the 713 projects funded by ASPE, NIDA, OEE, BCHS, NIMH, NICHD, or OCE whose performing organization was either "Academic"

TABLE XXVIII

OMISSION OF PRINCIPAL INVESTIGATOR DATA BY AGENCY

Agency	Number of Projects in Data Base	% of Funded Projects Including All P.I. Information
BCHS	90	82
NIMH	540	80
NICHD	332	78
OPBE	27	77
NIDA	70	67
LEAA	15	67
SRS	12	58
NINCDS	109	52
BEH	358	52
OCD	199	50
ASPE	2	50
ACTION	2	50
NIE	402	49
OCE	69	48
OEE	19	47
NIAAA	58	41
DBE	332	40
DOL	34	29
OYD	8	25
BOAE	170	21
DPSC	93	20
OIE	140	14
RTR	172	7
RSA	16	0
BESE/FT	150	0
USDA	93	0
DET	4	0

or "Other Performing Organization" (i.e., not affiliated with public educational or profit/nonprofit organizations). A sizeable contrasting group of projects without any P.I. data could not be identified; there is surprising heterogeneity of the population vis-a-vis omission characteristics.

If one examines the possibility that the data present on principal investigators are representative of the P.I.'s as a group, then it would be expected that the distribution of "data present" projects across agencies would be approximately rectangular. This condition is not fulfilled as Table XXVIII dramatically illustrates. The percentages of projects having P.I. data present ranges from 82% for BCHS to 0% for four agencies. This condition would introduce a rather sizeable bias into any investigation of P.I. characteristics and severely limit, if not preclude, any generalization of the results. This is especially true in view of the idiosyncrasies of the funding patterns of the agencies in the group in the sense that NIMH with 80% of their 540 projects represented and NICHD with 78% of 332 projects would exert much more influence than they should. The results would thus tend to be more representative of P.I.'s of NICHD and NIMH sponsored projects than the group as a whole.

Thus, in view of the biased nature of the available data on the principal investigators, further analysis was deferred. Attention will instead be devoted to techniques of improving the comprehensiveness of the data collection.

APPENDIX A

PARTICIPATING MEMBER AGENCIES OF THE INTERAGENCY PANELS ON EARLY CHILDHOOD AND ADOLESCENCE RESEARCH AND DEVELOPMENT IN FY 75

PARTICIPATING MEMBER AGENCIES OF THE INTERAGENCY PANELS ON EARLY CHILDHOOD AND ADOLESCENCE RESEARCH AND DEVELOPMENT IN FY '75

- Department of Health, Education, and Welfare (DHEW)
  - Office of Human Development (OHD)
  - Office of Child Development (OCD)
  - Office of Youth Development (OYD)
  - Office of the Assistant Secretary for Planning and Evaluation (ASPE)
  - National Institute of Child Health and Human Development (NICHD)
  - National Institute on Drug Abuse (NIDA)
  - National Institute on Alcohol Abuse and Alcoholism (NIAAA)
  - National Institute of Mental Health (NIMH)
  - National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)
  - Social and Rehabiliation Service (SRS)
  - Rehabilitation Services Administration (RSA)
  - Bureau of Community Health Services (BCHS)
  - Office of Education (OE)
    - OE, Bureau of Education for the Handicapped
    - OE, Office of Indian Education
    - OE, Right to Read Effort
    - OE, Bureau of School Systems
    - OE, Bureau of Occupational and Adult Education
    - OE, Office of Career Education
    - OE, Office of Planning, Budgeting, and Evaluation
  - National Institute of Education (NIE)
- Department of Agriculture (USDA)
- Department of Housing and Urban Development (HUD)
- Department of Labor (DOL)
- Office of Management and Budget (OMB)
- Department of Commerce, Bureau of the Census
- ACTION
- Department of Justice, Law Enforcement Assistance Administration (LEAA)

APPENDIX B

TABLES PREPARED FOR THE NATIONAL INSTITUTE OF EDUCATION BY THE GEORGE WASHINGTON UNIVERSITY SOCIAL RESEARCH GROUP UNDER CONTRACT #400-76-0117

TABLES PREPARED FOR THE NATIONAL INSTITUTE OF EDUCATION BY THE GEORGE WASHINGTON UNIVERSITY SOCIAL RESEARCH GROUP UNDER CONTRACT 400 76 0117

- Task 1A: Each table in task 1A is run for number of projects and funding.
  - Table 1 Funding type and duration by agency cluster
  - Table 2 HEW region by agency cluster
  - Table 3 Performing organization by agency cluster
  - Table 4 Performing organization and subunit by field of of principal investigator
  - Table 5 Degree held by principal investigator's educational background
  - Table 6 Year of degree awarded by principal investigator's highest degree earned
  - Table 7 Location of school by principal investigator's highest degree earned
  - Table 8 Sex of principal investigator by highest degree earned
- Task 1B: Tables 4-8 of task 1A were run for each of the agency clusters
- Task 1C: Primary focus of research by individual agency for projects and funding
- Task 1D: Kind of research by individual agency for projects and funding
- Task 1E: Tables 1-8 of task 1A were run for each kind of research function using projects and funding
- Task 1F, G: Funding of primary focus of education research by secondary focus for each agency cluster
- Task 1H: Funding of primary focus of research not classified as educational by secondary focus for each agency cluster
- Task 2A: Curriculum tables:
  - Table 1 Individual agency funding by kind of research
  - Table 2 Individual agency funding by target populations (separate listings for demographic characteristics and children with special characteristics)
  - Table 3 Individual agency funding by curriculum topic
  - Table 4 Individual agency funding by curriculum area
  - Table 5 Individual agency funding by performing organization
  - Table 6 Individual agency funding by grade level
  - Table 7 Funding of curriculum topic by curriculum area for each agency cluster

Table 8	Funding of target populations by curriculum area for each agency cluster (separate listings for demographic characteristics and children with special characteristics)
Table 9	Funding of grade levels by curriculum area for each agency cluster
Table 10	Funding of performing organization by kind of research for each agency cluster
Table 11	Funding of performing organization by curriculum area for each agency cluster
Table 12	Funding of target populations by curriculum area for each performing organization (separate listings for demographic characteristics and children with special characteristics)
Table 13	Funding of kinds of research by curriculum area
Table 14	Funding of curriculum topic by kind of research
Table 15	Funding of target populations by kind of research for each agency cluster (separate listings for demographic characteristics and children with special characteristics)

Additional tasks by contract modification:

Table 1	Type of funding by year for each agency
Table 2	Funding of different demographic characteristics by effects of intervention studied for each agency cluster and individual agency
Table 3	Funding of children with special characteristics by effects of intervention studied for each agency cluster and individual agency
Table 4	Funding of primary focus of research by agency
Table 5	Funding of kind of research by agency and agency cluster

Task 1A, tables 1-8 were run using funding, column percents, and row percents with modifications in format.

APPENDIX C

THE IDENTIFICATION OF PROJECTS AS RESEARCH ON EDUCATION

THE IDENTIFICATION OF PROJECTS AS RESEARCH ON EDUCATION

The FY '75 research and development projects identified as education research fall into two broad categories: those that investigate, evaluate, or demonstrate the provision of education services (2,162 projects) and those that are basic research that has as a primary or secondary focus the cognitive or social-emotional development of preschool and school-aged children (361 projects). A total of 2,523 projects were selected as having to do with some aspect of education.

The projects were coded as "educational services" if any one of the following classification categories, presented below with their definitions, were selected on the basis of the description of the planned activities found in the project proposal.

Classification Item Number	Definition
4012	The primary focus of the project is on educational services.
5033	The secondary focus of the project is on educational services.
6289	The project includes providing instruction to children or adolescents or research about such instruction.
6333	The project includes using an educational curriculum for children or adolescents or research about such curriculum.
6356	The project uses or investigates innovative teaching procedures or approaches to instruction.
6391	The project uses or develops innovative instructional materials for children or adolescents.

The selection process results in the inclusion of 470 projects that do not have educational services as a primary or secondary focus, compared to 2,053 that do. However, the unique character of the education-related research conducted by agencies whose primary mandate is other than education and the potential for discovery of the location of such activities were important factors in the decision to include these projects.

The second group of projects, basic research with a primary or secondary focus on the cognitive or social-emotional development of preschool and school-aged children (three through nine and all adolescents), was selected to capture the research on symbolic processes, concept formation, motivation, attitude formation, which relate to learning. These projects are developing knowledge useful to educational application. The definitions of the key terms basic research, cognitive development and social-emotional development are presented below:

Classification Item Number	Definition
3000	Basic research refers to research directed primarily toward the increase of knowledge, improvement of understanding, providing background information, and discovery of basic relationships, not necessarily applicable to solution of immediate problems; may include theory building.
4002 or 5023	Projects which have as a primary or secondary focus cognitiv development. These projects examine the processes by which knowledge is acquired.
4003 or 5024	Projects which have as a primary or secondary focus social-emotional development. These projects study the socialization processes through which the child acquires an awarenes of himself as an individual, of his role and the roles of others, of the cultural values of the society he lives in, as well as studies of the behaviors that result from the acquisition of this awareness.

The search of the entire SRG data file took the following form:

basic research (3000) and preschool and school-aged children (2007-2014) and cognitive or social-emotional development as a primary or secondary focus (4002 or 4003 or 5023 or 5024) or educational services research (4012 or 5033 or 6289 or 6333 or 6256 or 6391).

Thus, all projects relating to education in the data base were selected. However, it should be pointed out that the Interagency Research Information System contains only records from those agencies which are members of the Interagency Panels on Research and Development on Early Childhood and Adolescence. Furthermore, due to the specific interests of these Panels, projects which are involved solely with the training of educational personnel without reference to children or adolescents are not included.

This definition resulted in the exclusion of 83 NIE projects; of these nineteen received funds ($1,188,740). The projects either studied children not identified as school aged, or focused on other issues such as physical development or the social environment as they relate to achievement, or supported research information dissemination. However, the definition selected is the one which, across all agencies, differentiates most accurately between education and non-education research.

APPENDIX D

CLASSIFICATION OF FEDERALLY-FUNDED RESEARCH IN EARLY CHILDHOOD AND ADOLESCENCE--FY '75

USERS MANUAL FOR THE FY '75 CLASSIFICATION OF FEDERALLY-FUNDED RESEARCH IN EARLY CHILDHOOD AND ADOLESCENCE

Classification of Federally-Funded Research
In Early Childhood And Adolescence

For Use With The
Interagency Panels Information System
For FY '75 Data Collection

Prepared For
The Interagency Panel for Research and Development on Early Childhood
and
The Interagency Panel for Research and Development on Adolescence

by
Adele Harrell

Social Research Group
The George Washington University
Washington, D.C. 20036

June 1975

This classification was prepared for the Interagency Panels on Research and Development in Early Childhood and Adolescence for the purpose of coding the Federally-funded research projects active in FY '75 in which children or youth were a substantial portion of the targeted population. The member agencies have a broad range of legislative mandates and research priorities, and every effort has been made to include items for coding issues of present concern to these agencies. Projects coded include a range from basic medical studies to evaluations of service delivery systems. As a result, the classification contains a number of widely diverse categories only a few of which apply to any one project. The scope of items is further determined by the kind of information generally available in the majority of agency files from which the coding is done. Thus, the classification does not attempt a comprehensive description of the fields of early childhood or adolescence, but is used as a means of recording specific available information of interest to the Interagency Panels.

This classification is the most recent in a series produced each year for coding the projects sponsored by the Panel member agencies and draws heavily in content from the classifications prepared in 1970-1972 by Ellen Searcy for the Interagency Panels. It reflects, in addition, much help from the representatives to the Interagency Panels and from the staff of the Social Research Group, especially Tom Hertz, Steve Heyneman, Ada Jo Mann and Sharon Mangus.

The classification is intended for use as a code book from which the numbers of items appropriate to the project being coded are chosen and recorded on a separate code sheet. At the time of coding, a brief abstract about project objectives and purposes and additional facts, such as the name and address of the principal investigator and the level of FY '75 funding, are recorded on a cover sheet.

The classification is divided into six major sections which represent six major categories of questions:

I. Project Information - includes items about the kind and duration of funding and the name of funding agency.

II. Population Characteristics - includes items to describe the targeted population's age, race, special characteristics, etc.

III. Kind of Research - includes items to describe the purpose, project design and activities, and data collection techniques used.

IV. Focus of Research - includes items to describe the primary and secondary foci of the project. Only one primary and one secondary item may be chosen for any one project.

V. Areas of Research - includes a lengthy list of possible content areas being studied and all items that apply may be chosen. This section is used to amplify the choices made in Section IV to facilitate information retrieval.

VI. Principal Investigator - includes items describing the investigator's educational background and sex.

OUTLINE OF CLASSIFICATION FY '75

Pages

I. Project Information - 4-7
- A. Funding - 4
- B. Duration - 5
- C. Scope - 5
- D. Sample Size - 5
- E. State - 6
- F. Auspices - 7
- G. Performer suborganization - - - - - - - - - - - - 7

II. Targeted Population - - - - - - - - - - - - - - - - - - - 9-13
- A. Age - 9
- B. Sex - 10
- C. Race/Ethnicity - - - - - - - - - - - - - - - - - - 10
- D. Socioeconomic Status - - - - - - - - - - - - - - - 10
- E. Location - 11
- F. Kind of Child or Adolescent - - - - - - - - - - - 12-13

III. Kind of Research - 14-15
- A. Purpose of Project - - - - - - - - - - - - - - - - 14-15
- B. Methodology of Project - - - - - - - - - - - - - - 15

IV. Focus of Research - 17-18
- A. Primary Focus - - - - - - - - - - - - - - - - - - - 17
- B. Secondary Focus - - - - - - - - - - - - - - - - - - 18

V. Areas of Research - 20-35
- A. The Developmental Processes - - - - - - - - - - - - 20-24
  - 1. Physical Growth and Development - - - - - - 20-21
  - 2. Cognitive Growth and Development - - - - - 22
  - 3. Social-Emotional Growth and Development - - 23-24
  - 4. Overall Growth and Development - - - - - - 24

B. Study of Research Methods - - - - - - - - - - - - - - - - 25
C. The Family - 26
D. The Neighborhood-Community Environment - - - - - - - - - 27
E. The Broader Social Environment - - - - - - - - - - - - - 28
F. People in the Child's Environment - - - - - - - - - - - - 29
G. Intervention Programs and/or Activities - - - - - - - - - 30-35
VI. Principal Investigator - 37-39
A. Sex of Principal Investigator - - - - - - - - - - - - - 37
B. Highest Degree of Principal Investigator - - - - - - - - 37
C. Institution Awarding Highest Degree - - - - - - - - - - 37
D. Field of Highest Degree of Principal Investigator - - - 37-39
E. Date of Highest Degree of Principal Investigator - - - 39

Section I

Project Information

A. Funding
    1. Type
    2. Year
    3. Status
    4. Agency

B. Duration

C. Scope

D. Sample

E. State

F. Auspices

G. Performing suborganization

I. Project Information

A. Funding

1. Type

- 1000 Agreement
- 1001 Contract
  - 1002 Competitive (response to RFP)
  - 1003 8-A minority
  - 1004 Sole source
- 1005 Grant
  - 1006 Competitive
  - 1007 Non-competitive
- 1008 Intramural

2. Year

- 1009 Received FY '75 Funds
- 1010 Did not receive FY '75 Funds

3. Status

- 1011 New (first funded this fiscal year)
- 1012 Continued (funding continued from prior fiscal year)

4. Agency

1013 Multi-agency Project

1014	BCHS	Bureau of Community Health Services
1015	NIMH	National Institute of Mental Health
1016	NICHD	National Institute of Child Health and Human Development
1017	NINCDS	National Institute of Neurological and Communicative Disorders and Stroke
1018	OHD	Office of Human Development
1019	OCD	Office of Child Development
1020	OYD	Office of Youth Development
1021	SRS	Social and Rehabilitation Service
1022	NIE	National Institute of Education
1023	USDA	United States Department of Agriculture

1024 ACTION

1025 HUD Housing and Urban Development

1026 ASPE Office of the Assistant Secretary for Planning and Evaluation

1027 DOL Department of Labor

1028 OE Office of Education

  1029 Title III Division of Supplementary Centers and Services

  1030 Title VII Division of Bilingual Education

  1031 BOAE Bureau of Occupational and Adult Education

  1032 OPBE Office of Planning, Budgeting and Evaluation

  1033 BEH Bureau of Education for the Handicapped

  1034 BEEO Bureau of Equal Education Opportunity

  1035 Division of Environmental and Technical Education

  1036 Right to Read

  1037 Division of Follow-Through

  1038 Office of Career Education

  1039 Office of Indian Education
  1044 Division of Educational Technology

1040 NIDA National Institute on Drug Abuse

1041 NIAAA National Institute on Alcohol Abuse and Alcoholism

1042 LEAA Institute for Juvenile Justice
1043 RSA Rehabilitation Services Administration

B. Duration

1048 Long-term (two years or longer)

1049 Short-term (shorter than two years)

C. Scope

1050 Broad research program that includes more than one study or project

1051 Separately funded component of a broad program

1052 Independent project (not part of a larger program)

D. Sample Size (people only)

1053 Specified

1054 Not specified

E. State or location of the award recipient.

1060	Alabama
1061	Alaska
1062	Arizona
1063	Arkansas
1064	California
1065	Colorado
1066	Connecticut
1067	Delaware
1068	District of Columbia
1069	Florida
1070	Georgia
1071	Hawaii
1072	Idaho
1073	Illinois
1074	Indiana
1075	Iowa
1076	Kansas
1077	Kentucky
1078	Louisiana
1079	Maine
1080	Maryland
1081	Massachusetts
1082	Michigan
1083	Minnesota
1084	Mississippi
1085	Missouri
1086	Montana
1087	Nebraska
1088	Nevada
1089	New Hampshire
1090	New Jersey
1091	New Mexico
1092	New York
1093	North Carolina
1094	North Dakota
1095	Ohio
1096	Oklahoma
1097	Oregon
1098	Pennsylvania
1099	Rhode Island
1100	South Carolina
1101	South Dakota
1102	Tennessee
1103	Texas
1104	Utah
1105	Virginia
1106	Vermont
1107	Washington
1108	West Virginia
1109	Wisconsin
1110	Wyoming
1111	Guam, Puerto Rico, Virgin Islands, Trust Territories
1112	Foreign Country

F. Auspices (performer organization)

- 1120 Governmental organization
  - 1121 State
    - 1122 State Education Agency (SEA)
  - 1123 Regional agency (inter and intra state)
  - 1124 City or county government
    - 1125 Local Education Agency (LEA)
- 1126 Corporate organizations (non-government)
  - 1127 Non-profit organization
    - 1128 Community-based organization
  - 1129 Profit-making organization

- 1130 Academic organizations
- 1131 Unaffiliated individuals
- 1132 Other
- 1133 No information found

G. Performer suborganization

- 1150 Academic
  - 1151 Administration
  - 1152 Instructional
    - 1153 School of Education
    - 1154 Medical School
    - 1155 Other Graduate Professional School
    - 1156 Graduate Arts and Sciences
    - 1157 Undergraduate Education
    - 1158 Undergraduate Arts and Sciences
    - 1159 Undergraduate - all other
  - 1160 Research Units
    - 1161 Affiliated with School of Education
    - 1162 Affiliated with Medical School
    - 1163 Affiliated with Graduate Professional School
    - 1164 Affiliated with Graduate Arts and Sciences
    - 1165 Undergraduate Education
    - 1166 Undergraduate Arts and Sciences
    - 1167 Undergraduate - other
- 1170 Subunit of a government, corporate, or other organization
- 1171 No subunit found

Section II

Population Characteristics

A. Age

B. Sex

C. Race and/or Ethnic Identity

D. Socioeconomic Status

E. Location

F. Kind of Children or Adolescents

II. Targeted Population

A. Age

2001 Childhood

- 2002 Children in general (age not specified)
- 2003 Prenatal (before birth)
- 2004 Infancy (birth to one year)
- 2005 One to two (1 year old)
- 2006 Two to three (2 years old)
- 2007 Three to four (3 years old) preschool
- 2008 Four to five (4 years old) preschool
- 2009 Five to six (5 years old) or kindergarten
- 2010 Six to seven (6 years old) or first grade
- 2011 Seven to eight (7 years old) or second grade
- 2012 Eight to nine (8 years old) or third grade
- 2013 Nine to ten (9 years old) or fourth grade

2014 Adolescence

- 2015 Ten to eleven (10 years old) or fifth grade
- 2016 Eleven to twelve (11 years old) or sixth grade
- 2017 Twelve to thirteen (12 years old) or seventh grade
- 2018 Thirteen to fourteen (13 years old) or eighth grade
- 2019 Fourteen to fifteen (14 years old) or ninth grade
- 2020 Fifteen to sixteen (15 years old) or tenth grade
- 2021 Sixteen to seventeen (16 years old) or eleventh grade
- 2022 Seventeen to eighteen (17 years old) or twelfth grade
- 2023 Eighteen to twenty-four (18, 19, 20, 21, 22, 23, 24 years old) (college or higher education)
- 2024 Adolescents or youth in general (age not specified)

B. Sex

2025 Male only

2026 Female only

2027 Male and female

2028 Information not available or not applicable

C. Race and Ethnic Identity

2029 White

2030 Culturally or ethnically diverse groups (American minority groups)

- 2031 Spanish-surnamed Americans
  - 2032 Mexican-Americans
  - 2033 Puerto Ricans
- 2034 Black
- 2035 American Oriental
- 2036 American Indian
  - 2037 Eskimo
  - 2038 Navaho
- 2039 Mixed racial/ethnic group
- 2040 Other national/ethnic/racial groups not listed

2041 Information not available or not applicable

D. Socioeconomic status

2042 Population primarily poor

2043 Population middle class

2044 Population mixed economically

- 2045 Representative of the national population
- 2046 Representative of local (non-national) populations

2047 Information not available or not applicable

E. Location

2050 Urban area (town or city)

- 2051 Inner city (i.e. central city slum such as ghetto or barrio)

2052 Suburban

2053 Rural

2054 Indian reservation

2055 International area (outside the 50 United States)

2056 Mixture or cross-section of the above

2057 Migrant (no fixed area of residence)

2058 Information not available or not applicable

F. Kind of Children and/or Adolescents

2060 All children (targeted population is not one with special characteristics--include normative samples and also selections that do not control for special characteristics)

2061 Children with special characteristics (includes all special characteristics)

- 2062 Children (Adolescents) with handicapping conditions
  - 2063 Physically handicapped
    - 2064 Aurally handicapped
      - 2065 deaf
      - 2066 hard-of-hearing
    - 2067 Visually handicapped
      - 2068 blind
    - 2069 Neurologically handicapped (include epileptic)
      - 2070 brain damaged
      - 2071 hyperkinetic (include hyperactive)
      - 2072 cerebral palsied
    - 2073 Orthopedically handicapped (crippled children)
    - 2074 Handicapped by communicative disorder (include speech handicapped)

        - 2075 Multihandicapped
            - 2076 deaf-blind
    - 2077 Intellectually handicapped
        - 2078 Mentally retarded
            - 2079 educable retarded
            - 2080 trainable
        - 2081 Learning disabled (with specific learning handicaps such as aphasia or dyslexia)
- 2082 Children with other special characteristics
    - 2083 Children at risk
    - 2084 Physically ill
    - 2085 Emotionally disturbed (or ill)
        - 2086 Psychotic
            - 2087 schizophrenic
            - 2088 autistic
        - 2089 maladaptive (include non-psychotic violent, destructive, withdrawn children)
    - 2090 Drug users
        - 2091 Heroin
        - 2092 Marijuana
        - 2093 Alcohol
    - 2094 Delinquent
    - 2095 Runaway
    - 2096 School dropouts
    - 2097 Abused or neglected
    - 2098 Academically slow (non-handicapped slow learners, slow readers, functional illiterates, underachievers)
    - 2100 Bilingual (for whom English is a second language)
    - 2101 Gifted
    - 2102 Adolescent parents

Section III

Kind of Research

A. Purpose of Project

B. Other Project Activities

C. Methodology of Project

A. Primary Kind of Research Activity

3000 Basic (directed primarily toward increase of knowledge, improvement of understanding, providing background information, and discovery of basic relationships; not necessarily applicable to solutions of immediate problems, may include theory building.)

3001 Applied (Results are intended to be more directly applicable to immediate problems than basic research; applied research may be derived from basic research or theory or may be empirical; aimed at showing how existing knowledge can be used in new and useful ways.)

3002 Pilot Study (small scale initial trials to determine feasibility and to identify problems in preparation for larger efforts)

3003 Development (the construction of tests, systems, materials, methods, media, equipment, facilities, prototypes, models)

3004 Demonstration and/or replication (activities designed specifically to show the method of operation or applicability of a research or program model)

3005 Evaluation Research (to determine overall effectiveness of a broad program, projects, models, strategies, materials, methods, and costs.)

3006 Research Support and Utilization Activities (such as conferences and publications to disseminate information or installation funding for proven demonstration projects)

3007 Policy Research (of needs, goals, priorities, guidelines, etc.)

B. Other Project Activities

- 3008 Planning
- 3009 Dissemination
- 3010 Development of statistics on children and families

C. Methodologies of the Project

- 3014 longitudinal study
- 3015 pretest-post-test design
    - 3016 experimental approach
- 3017 case study of individual persons
- 3018 multidisciplinary approach
- 3025 observation
    - 3026 Development of new or change of existing observation techniques
- 3027 interview
    - 3028 Development of new or change of existing interview techniques
- 3029 questionnaire
    - 3030 Development of new or change of existing questionnaires
- 3031 survey
    - 3032 Development of new or change of existing survey
- 3033 standardized test
    - 3034 Modification of standardized test
- 3035 Non-Standardized test
    - 3036 Development of new or modification of non-standardized test
- 3037 not available, not applicable

Section IV

Focus of Research

A. Primary Focus

B. Secondary Focus

A. Primary Focus of the Study

4000 The development of the child or adolescent

    4001 Physical development

    4002 Cognitive development

    4003 Social-emotional development

4004 The family

4005 The neighborhood or community environment

4006 The broader social environment (include various kinds of social change, social crises, or cultural effects)

4007 Study of research methods

4008 Health or welfare services

    4009 Day care

    4010 Health care (include drug abuse prevention, mental health services, and others)

    4011 Protective/advocacy services (emergency protective, adoptive foster care and all services for abused children)

4012 Educational services

    4013 Special education

    4014 Early childhood education (infant - preschool)

    4015 Elementary school education (K - 6 grade)

    4016 Secondary school education (junior and senior high school)

    4017 Post-secondary education (college, adult education)

    4018 Alternative education (outside of school)

4019 Juvenile justice institutions or services (include delinquency treatment or prevention)

B. Secondary Focus of the Study

5021 The development of the child or adolescent

- 5022 Physical development
- 5023 Cognitive development
- 5024 Social-emotional development

5025 The family

5026 The neighborhood or community environment

5027 The broader social environment (includes various kinds of social change, social crises, or cultural effects)

5028 Study of research methods

5029 Health or welfare services

- 5030 Day care
- 5031 Health care (include drug abuse prevention, mental health services, and others)
- 5032 Protective/advocacy services (emergency protective, adoptive, foster care and all services for abused children.)

5033 Educational services

- 5034 Special education
- 5035 Early childhood education (infant - preschool)
- 5036 Elementary school education (k - 6 grade)
- 5037 Secondary school education (junior and senior high school)
- 5038 Post-secondary education (college, adult education)
- 5039 Alternative education (out of school)

5040 Juvenile justice institutions or services (include delinquency treatment or prevention)

5042 No secondary focus in the study

Section V

Areas of Research

A. The Developmental Processes and Status of Children and Adolescents

B. The Study of Research Methods

C. The Family

D. The Neighborhood/Community

E. The Broad Social Environment

F. People in the Child's Environment

G. Intervention Programs and Activities

6000 The Developmental Processes

6001 Physical development

6002 Body growth (includes metamorphosis, change of physical form or structure, and morphology--the study of physical form or structure--and also includes maturation)

6003 Abnormal growth

6004 Puberty (sexual and Physical maturation)

6005 Motor development

6006 Stimulus response (reflexes)

6007 Locomotion

6008 Sensory processes (physical aspects)

6009 Vision

6010 Audition

6011 Touch

6012 Physical Characteristics (includes lateral dominance or strength)

6013 Handicapping conditions (record the kind of handicapping condition under target population)

6014 Physical disease

6015 Sudden Infant Death Syndrome

6016 Infectious disease

6018 Congenital disease

6019 Injury or accident or trauma

6020 Alcohol Abuse

6021 Drug Abuse

6022 Poisoning or intoxication (such as lead-based paint poisoning or pica)

6023 Studies of child abuse or neglect

6024 Studies of nutrition

6025 Studies of genetics

6026 Studies of pharmacology (science of drugs)

6027 Studies of epidemiology (the incidence, distribution and control of disease in a population)

6028 Studies of health issues related to pregnancy and childbirth

- 6029 Maternal health (pre and post natal)
    - 6030 Prenatal nutrition
- 6031 Child prenatal, perinatal and neonatal health

6040 Cognitive Growth and Development

- 6041 Perception
  - 6042 visual perception
  - 6043 auditory perception
  - 6044 tactile perception
- 6045 Attention
- 6046 Concept formation
- 6047 Problem solving, critical thinking, decision-making
- 6048 Creativity
- 6049 Memory
- 6050 Learning processes (for example, conditioned learning, observational learning, transfer of skills)
- 6051 Symbolic Processes
  - 6052 Reading processes
  - 6053 Imagery
  - 6054 Play
  - 6055 Language development
    - 6056 Language acquisition (includes acquisition of syntax, semantics, and phonology)
    - 6057 Structure and content of language (includes studies of linguistics)
    - 6058 Communication skills and language usage
- 6059 Computer simulation of thought
- 6060 Studies of cognitive achievement or performance or ability
- 6061 Studies of intellectually handicapping conditions (see population characteristics)

- 6071 Social-emotional Growth and Development
  - 6073 Social development and personality
    - 6074 Perception of self (self-concept)
      - 6075 Locus of control
      - 6076 Cultural/racial identity
      - 6077 Sexual identity
    - 6079 Interpersonal relationships, social skills and competency
      - 6080 Perception of others
    - 6082 Attitudes
      - 6083 Towards work
      - 6084 Towards school
      - 6085 Towards peer group
      - 6086 Racial
      - 6087 Social
      - 6088 Toward drug use
    - 6090 Development of values (ethics, morals)
    - 6091 Motivation (includes aspiration levels and goals)
    - 6092 Personality characteristics
      - 6093 Coping mechanisms
  - 6094 Emotional development (or mental health)
    - 6095 Feelings of alienation/loneliness
    - 6096 Anxiety and fear
    - 6097 Hostility/Aggression
    - 6098 Pleasure, happiness
    - 6099 Emotional illness

6110 Social behavior patterns

  6111 Sexual behavior patterns (includes studies of sexual practices, family planning practices)

  6112 Maladaptive behaviors (includes antisocial)

  6113 Life style

6115 Overall Child Growth and Development

  6116 Developmental readiness

  6117 Developmental continuity--transition from one stage to another as seen from the perspective of service recipient

6124 Study of Research Methods

6125 Instrumentation

6126 Behavior observation techniques

6127 Techniques of classifying data (e.g., techniques for describing facts about events, individuals, environments, etc.) for information retrieval or storage

6128 Tests and measurements

6129 for program evaluation

6130 for treatment or technique evaluation

6131 for evaluation of individuals

6132 for physical evaluation

6133 for cognitive evaluation

6134 for affective evaluation

6135 Statistical analysis

6136 Study of research bias

6137 Effect of setting/research agent

6138 Cultural/racial/ethnic bias

6200 The family

- 6201 Ecology of the home (child's interaction with home surroundings)
- 6203 Family structure/composition/spacing of children (including family size)
    - 6204 Nuclear family
    - 6205 Single parent family
    - 6206 The extended family
    - 6207 The commune
    - 6208 Single child family
    - 6209 Families with adoptive or foster children
    - 6210 Working mother
- 6211 Child rearing practices
- 6212 Intrafamily relationships (and family dynamics)
    - 6213 Parental roles and behavior
        - 6214 Parental attitudes and/or expectations
    - 6215 Sibling relationships
    - 6216 Parent-child relationships
- 6217 Family health
    - 6219 Family health practices
    - 6220 Mental ill health in the family
    - 6221 Physical ill health in the family
- 6222 The family's interface with society (impact of social institutions on the family and vice versa)
- 6223 Training of parents (to care for children)

6224 The Neighborhood/Community Environment

6225 Geographical location (i.e., farm, inner city, suburban)

6226 Housing conditions/arrangements

6227 Facilities, equipment and/or materials for children (includes playground equipment, movies)

6229 The Broader Social Environment

- 6230 Cultural effects
  - 6231 Youth culture
  - 6232 Ethnic and/or racial culture
  - 6233 Cross-cultural study (comparison of cultures)
- 6234 Socio-economic status/environment
- 6235 Religious environment
- 6236 Mass media
  - 6237 TV
- 6238 Social crises (include stress, energy shortage, noise, crime, and violence)
  - 6239 Studies of delinquency
  - 6240 Studies of unemployment (rates, effects)
- 6241 Studies of the legal rights and responsibilities of children and adolescents
  - 6242 Study of status offenses
- 6243 Social change
  - 6244 Effects of government policy changes
  - 6245 Changing sex roles
  - 6246 Changing family patterns (birth rate, divorce rate)
  - 6247 Changing employment practices (more working mothers, changing work week)
  - 6248 Effects of desegregation
- 6249 Ecological studies (studies of the relationship between child development and the child's environment)

6258 People in the Child's Environment

Effects Studied

- 6259 Influence on children
- 6260 Training of these people

People Studied (other than children)

- 6261 Community members/citizens (adults other than parents)
- 6262 Children or youth (peers, not family members)
- 6263 Staff of operating programs
  - 6264 Psychologist
  - 6265 Social worker
  - 6266 Vocational or career counselor
  - 6267 Child care workers
  - 6268 Youth workers
  - 6269 Educational personnel
    - 6270 Professional
      - 6271 teacher trainers and/or student teachers
      - 6272 administrators/supervisors
      - 6273 principals
      - 6274 teachers
    - 6275 Paraprofessionals
      - 6276 teacher aides
  - 6277 Welfare service personnel
    - 6278 Child advocate
  - 6279 Police or law enforcement officials
  - 6280 Medical or health care personnel
    - 6281 Professional medical personnel
    - 6282 Paraprofessional personnel
  - 6283 Neighborhood/community workers
  - 6284 Field worker
  - 6285 Volunteer
  - 6286 Planners of policy of operating programs, or research

6287 Intervention Programs and Activities

Kind of Service

6288 Day care

6289 Instruction (in any location or program)

- 6290 Special education (for handicapped)
- 6291 Infant education
- 6292 Preschool
- 6293 Primary grades K-3
- 6294 Middle grades 4-6
- 6295 Junior high school grades 7-9
- 6296 High school grades 10-12
- 6297 Higher education (post-secondary)
- 6298 Alternative education (non-graded, work-study, voucher system)

6299 Health and/or medical services

- 6300 Preventive health services (immunizations, screening and diagnosis)
- 6301 Pre- and post-natal health care
- 6302 Drug abuse treatment and/or prevention
- 6303 Health services related to family planning (counseling, genetic referral, contraception, abortion)
- 6304 Nutrition programs (include school lunches, food stamps, etc.)
- 6305 Mental health services
- 6306 Alcohol abuse treatment and prevention services

6310 Welfare services

  - 6311 Health insurance
  - 6312 Income maintenance
  - 6313 Foster care
  - 6314 Adoptive services
  - 6315 Child abuse prevention or treatment
  - 6316 Employment services/programs
  - 6317 Emergency services (crisis services including removal from home)
  - 6318 Advocacy (include the coordination and facilitation of combined community services)

6319 Delinquency treatment or prevention services (include detention homes, probation, parole, halfway houses, correctional institutions)

6320 Recreation

6321 Law enforcement (police, courts, legal services)

Place

6322 Home

  - 6323 Adoptive home
  - 6324 Foster home

6325 School (include universities)

6326 Group care facility/center (day care center)

6327 Hospital

6328 Medical clinic/treatment center

6329 Community center

6330 Place of employment

6331 Residential institution

6332 Sheltered workshop

Intervention Content

6333 Educational curriculum

- 6334 Arithmetic/mathematics
- 6335 Social studies
- 6336 Language arts
  - 6337 Reading
- 6340 Fine arts education (art/music)
- 6341 Cultural awareness education (includes minority group studies)
- 6342 Science
- 6343 Vocational/technical education (includes occupational)
- 6345 Career education
- 6346 Physical education
- 6347 Health education/safety education
- 6348 Drug abuse education
- 6349 Sex education
- 6350 Education for parenthood (include instruction for non-parents in parenting skills, child development, child care, family life)
- 6351 Citizenship training (include leadership and social cooperation training)
- 6352 Environmental studies

6356 Teaching techniques/learning conditions

- 6357 Volunteer community service
- 6358 Cross-age teaching
- 6359 Peer teaching
- 6360 Non-graded instructional program
- 6361 Voucher system
- 6362 Bilingual instruction
- 6363 Tutorial instruction
- 6364 Individualized curriculum
  - 6365 Programmed instruction
    - 6366 Computer-assisted instruction
- 6367 Television instruction
- 6368 Open classroom (can include classroom learning or resource centers)
- 6370 Team teaching
- 6371 Work experience (anywhere--at school or at job)

- 6373 Treatment or procedures
  - 6374 Diagnostic procedures
  - 6375 Behavior modification
  - 6376 Abortion
  - 6377 Birth control
  - 6378 Physical therapy
  - 6379 Speech therapy
  - 6380 Nutrition (dietary change or supplementation)
  - 6381 Medication
  - 6382 Psychotherapy (counseling or treatment of mental health problems)
    - 6383 Group therapy
    - 6384 Family therapy
  - 6385 Psychological and/or social counseling
    - 6386 Career guidance/employment counseling
    - 6387 Peer counseling
  - 6388 Referral services
    - 6389 Hot line
- 6390 Materials or equipment
  - 6391 Instructional materials
    - 6392 Audiovisual materials
    - 6393 Instructional equipment (hardware, e.g., computers, teaching machines, etc.)
    - 6394 Manipulative devices (including games and toys)
  - 6395 Prosthetics and orthotics
- 6396 Other program policies and activities
  - 6397 Desegregation
  - 6398 Deinstitutionalization
  - 6399 Integration of special education into other educational programs (mainstreaming)
  - 6400 Parent involvement in program activities
    - 6401 Training of parents for staff participation
  - 6402 Youth involvement in program activities

Effects Studied

6403	Program setting
6404	Educational curriculum
6405	Teaching techniques/learning conditions
6406	Treatments or procedures
6407	Materials
6408	Delivery systems
6409	Cost and cost-benefit
6410	Other program policies and activities

Section VI

Principal Investigator

A. Sex of Principal Investigator

B. Highest Degree Level of Principal Investigator

C. Institution Awarding Highest Degree

D. Field of Highest Degree of Principal Investigator

E. Date of Highest Degree of Principal Investigator

A. Sex of Principal Investigator

7000 Female

7001 Male

7003 Unknown

B. Highest Degree Level of Principal Investigator

7004 Less than Bachelor's -- include Associate Degrees

7005 Bachelor's Degree

7006 Master's Degree

7007 First Professional Degree [D.S.C., Ped. D., D.D.S., D.M.D., M.D., O.D., D.O., D.V.M., LL.B., J.D., D.D.]

7008 Education Doctorate (E.D.D.)

7009 Doctorate (Ph.D.)

7010 No information found

C. Institution Awarding Highest Degree

7011 Institutions in the U.S. and U.S. territories (write name and city on the code sheet)

7012 Foreign institutions

7013 No information found

D. Field of Highest Degree

7015 Field not elsewhere classified

7016 Psychology (except Educational Psychology) -- include social psychology, experimental, clinical, developmental, physiological, industrial, etc.

7017 Social Sciences [not further identified]

- 7018 Sociology
- 7019 Anthropology
- 7020 Economics
- 7021 Political Science and Government
- 7022 Other--includes Archaeology, Geography, International Relations, Ethnic and Urban Studies, Demography, Criminology, History, etc.

- 7023 Arts and Humanities--includes area studies, fine and applied arts, foreign languages, letters, theology, general liberal arts and sciences
- 7024 Physical, Biological and Natural Sciences
  - 7025 Physical Sciences--includes chemistry, physics, astronomy, geology, oceanography, metallurgy, meteorology, paleontology, etc.
  - 7026 Biological Sciences--includes biology, zoology, genetics, biophysics, etc.
  - 7027 Agriculture and Natural Resources--includes animal sciences, wildlife management, food science, forestry, etc.
- 7028 Mathematics and Statistics
- 7029 Engineering--all kinds
- 7030 Professions and Other Applied Disciplines [not further identified]
  - 7031 Computer and Information Sciences
  - 7032 Health professions--includes medical, dental, laboratory technologies, speech pathology, etc.
  - 7033 Communications--journalism, advertising, etc.
  - 7034 Public Services--includes social work, law enforcement, community services, etc.
  - 7035 Law
  - 7036 Home economics
  - 7037 Other--include architecture and environmental design, business and public management, library science, military science, etc.
- 7038 Education
  - 7039 Educational Psychology
  - 7040 Social foundations, educational sociology
  - 7041 Educational research, statistics, testing, evaluation, measurement
  - 7042 Basic curriculum and instruction--reading, art, music, mathematics, science
  - 7043 Career Curriculum and Instruction--business, commerce, distributive, agriculture, vocational, technical, industrial arts, nursing

7044 Other Curriculum and Instruction--physical education, home economics, driver safety, health

7045 Special Education--gifted, deaf, visually handicapped, mentally retarded, speech correction, etc.

7046 Educational levels--not further identified

7047 preschool and early childhood

7048 elementary

7049 secondary

7050 post-secondary--community colleges through post-graduate

7051 adult and continuing education

7052 Educational management--supervision, administration, policy, personnel, comparative and international

7053 No information found

E. Date of Highest Principal Investigator Degree

7100 Information not available

71__ Fill in the last two digits of the year in which the degree was awarded.

USERS MANUAL FOR THE FY '75 CLASSIFICATION OF FEDERALLY-FUNDED RESEARCH IN EARLY CHILDHOOD AND ADOLESCENCE

Social Research Group
The George Washington University
Washington, D.C. 20036

June 1975

The coding directions used in collecting the FY '75 data from the proposals of federally-funded research and development on children and youth for the Interagency Research Information System maintained by the Social Research Group of George Washington University are presented as follows:

I. Project Information p. 121

II. Target Population p. 124

III. Kind of Research p. 127

IV. Focus of Research p. 130

V. Areas of Research p. 131

VI. Principal Investigator p. 162

I. Project Information

A. Funding

1. Type. Code the type of funding by referring to the face or award sheet. Agreement is a general term used to describe methods of awarding money other than grants and contracts, such as procurement orders. With contracts, the terms and conditions of the award should follow the face sheet and should state whether the contract was a sole source award or an 8-A minority award, two special kinds of non-competitive contracts. A competitive contract or grant is one that results from response to an "RFP" (Request for Proposals). If no reference is made to an RFP, ask knowledgeable agency personnel whether or not the award was competitive. Intramural research is research conducted by the agency's staff.
2. Year. The purpose of these items is to differentiate between projects that received FY '75 funds and those which are continuing research activity on a preceding year's funds. However, projects which have been extended without funds a few months into the fiscal year (cut off at September 1st) pending acceptance of a final report are not coded at all.
3. Status. Whether a project is new or continued is usually listed on the application page. If the information is not there, check for a continuation number at the end of the agency ID number or for prior grant or contract award sheets. If none are present, assume the project is new.
4. Agency. Record the numbers of all agencies which contribute to the funding. Use the multiagency item to classify projects funded by more than one agency, as well as the numbers for those agencies.

B. Duration. The planned duration of the project is usually stated on the grant application page or in the contract specifications. If you do not find it there, examine the research plan for indications of planned duration.

C. Scope. A broad program is a planned program of research that consists of many components (not separately funded). Example: The program projects supported by the NIH agencies which support related studies in topics such as mental retardation at large medical centers. In these cases a single broad program can include diverse methodologies and objectives. The item for separately funded components refers to projects that are individually funded, but are part of a large program of related research, such as the Follow-Through Projects. Most projects are considered individual projects.

D. Sample size. Sample size is considered specified only in cases when the number of people about whom data will, or has been, collected is specified.

E. State. The location of the award recipient is considered the state in which the institution with which the principal investigator is affiliated is located. If the principal investigator is not affiliated with an institution, the location is considered the state listed in his address.

F. Auspices. The institution or organization to which an award is made or with which the principal investigator is affiliated is to be described by these items. This information is found either on the face sheet or in the "facilities" section of the proposal or in other information in the files in booklet or narrative form about the performing organization.

Governmental organizations of all kinds are coded according to administrative level. Regional agency refers to interstate consortia, working groups, conferences, including all governmental within State organizations unless these are local or county level organizations. An LEA is any part of a local public school district including an individual school.

Corporate organizations are those corporate entities for which a name is available which contains Inc., Corp., or some designation that makes it apparent that the organization is not affiliated with the government or academic institutions. Use the codes for profit or non-profit corporations when this information can be found. If an information sheet or booklet is attached describing the organization and its work, but the information does not state that it is a non-profit organization, code it as a profit-making organization. Community-based organizations are local non-governmental service organizations.

Academic organizations are schools or universities of all kinds and all grade levels (exclude LEAS).

G. Performer suborganization. This section will be used to describe the subunit, if any, of the organization under whose auspices the research is being conducted and refers to subunits of the group selected in section F, auspices. These subunits must be identified by name in the literal information section of the code sheet. The information is usually found on the application page immediately below the name of the principal investigator or above the name of the performing organization. A second place to look for the information is with the signature of the award recipient which may designate a title that refers to a specific subunit. Academic investigators often have more than one unit affiliation. Their professional stature is often associated with a department, although this may not be where they are performing the project. Check the facilities section of the proposal to determine which subunit is actually conducting the research and code that group. The subunits of academic institutions are coded at the most detailed level at which information is available. Subunits of governmental organizations, corporate organizations or other groups are all coded 1170.

II. Targeted Population

A. Age. The ages of the children or adolescents that the research is designed to benefit (whether or not any such are included in the study itself) are coded if referred to in years, months, grades in school or other specific references. Each year is coded individually. Studies that refer only to children are coded 2013 and those that refer in general to youth, teenagers, etc., are coded 2024.

B. Sex. When male-only samples or female-only samples are studied, code them separately, even when both are included in the same study. When the sample includes males and females tested or studied as part of a single sample, code the item for male and female. The number for not available/not applicable is used to describe all studies that do not include a description of the targeted population by sex.

C. Race and Ethnic Identity. Only groups specifically mentioned by name in the project proposal or reports are coded. Whenever the targeted population consists of more than one group, all groups mentioned are coded and, in addition, the number for mixed ethnic group is used. When the project refers only to mixed racial/ethnic groups the number for mixed ethnic group is used alone. The number for other groups not listed is the one to use for all populations outside the United States and possessions.

D. Socioeconomic status. This item is used to measure the poverty versus wealth of populations or their relative rating on an SES scale. The item for population primarily poor is used when the proposal refers to low SES, inner city, poor or economically disadvantaged populations. The item population primarily middle class is used when the proposal refers to middle class, average SES, suburban, or other descriptions of non-poor populations. When the sample is described as representative, use one of the terms to describe what population it represents, using the general number only when you are unsure of the general population represented.

E. Location. The item for urban is used only when the investigator refers to an urban or SMA location. Inner city is coded only when the proposal uses that term or a similar term such as ghetto, model city, or barrio. Suburban is coded when the target population is specifically described as suburban or adjoining an urban area. No attempt is made to look up county names or to analyze geographical locations. Unless reference is made to the nearby urban area or to the word suburban, the location is considered rural or outside a metropolitan area. The word rural is used to describe non-metropolitan areas (e.g., farms, Appalachia, rural, and other similar locations.) Indian reservations must be described as such in the proposal. International areas refer to populations outside the 50 United States (anywhere from Israel to Samoa) and is also used for the populations in Guam, Puerto Rico, the Virgin Islands, and other U.S. possessions. Whenever more than one of the above are used, also code the item for mixed location. The item for mixed location also is used alone when the project refers simply to mixed location, or national sample, or gives some indication of varying locations. The term migrant refers only to transient populations called migrant by the investigator.

F. Kinds of children. The item "all children" (2060) is used when the targeted population is children or youth in general without regard to any special characteristics aside from the demographic variables previously coded in this section (e.g., age, sex, etc.) The list of special characteristics defines those populations in which members of the Interagency Panels have expressed an interest. The handicapping conditions are coded when these conditions are referred to by the principal investigator. The most specific choices possible are made (e.g., if you know the project includes both deaf and hard-of-hearing use both terms, not the general term). The definition of these conditions is the responsibility of the principal investigator, and the populations are coded as identified by the principal investigator. When projects are concerned with prevention, the special condition they are trying to prevent is coded (e.g., abused children or drug abuse) whether or not the group involved in the study is known to have such characteristics.

III. Kind of Research

A. Primary kind of research. One and only one kind of research must be coded for each project. When several kinds of research activity are included in one project, the item that most accurately describes the overall activity is used.

Basic research. Refers to research directed primarily toward increase of knowledge, improvement of understanding, providing background information, and discovery of basic relationships, especially when the research is not necessarily applicable to solutions of immediate problems. Theory building may be included.

Applied research. Refers to research in which results are intended to be more directly applicable to immediate problems than basic research. Applied research may be derived from basic research or theory or may be empirical, and is designed to show how existing knowledge can be used in new and useful ways.

Pilot study. Refers to small scale initial trials to determine the feasibility of a research effort and to identify problems in preparation for larger efforts.

Development. Refers to the construction of tests, systems, materials, methods, media, equipment, facilities, prototypes, models.

Demonstration and/or replication. Refers to activities designed specifically to show the method of operation or applicability of a research or program model. The demonstration must include evaluation of the program. If no evaluation is being conducted, do not include this project in the data collection.

Evaluation research. Refers to research designed to determine overall effectiveness of a broad program, projects, models, strategies, materials, methods and costs.

Research support and utilization activities. Refers to projects funded with research dollars that do not gather or analyze data, but support the planning or implementation or dissemination of research related to children and adolescents, such as conferences, publications, installation of proven models.

Policy research. Refers to studies of needs, goals, priorities, and guidelines and often includes state-of-the-arts papers and library research.

B. Other project activities. Use planning and dissemination (both when applicable) to describe projects which specifically mention including these activities in the planned scope of work.

The development of statistics refers to all studies containing State, regional and national statistics pertaining to child and family related services and programs in the following areas: Health (i.e., immunization programs, psychiatric services, nutrition programs), Education (i.e., Day Care, programs for the handicapped), and Welfare (i.e. AFDC, food stamps). Also included in this code are references to demographic data at state, regional and national levels related to children and families (i.e., income, type of family, ethnicity, educational attainment of the family head, age, sex, and handicapped conditions.

C. Methodologies of the project. Code all items that apply to the project.

Longitudinal studies are those which examine data gathered on the same subjects over a period of time longer than two years (whether the data is presently being gathered or not).

Pre- and post-test design. Refers to projects that test the sample before and after an intervention.

The experimental design uses a pre- and post-measure and control groups.

Case studies are those projects which follow a single individual (or small numbers) over a period of time using in-depth analysis.

Multidisciplinary research is that which involves the use of methods, instruments, and professional staff (all of these) from more than one scientific background.

Observation is used to describe those projects in which a trained professional watches and describes (verbally or with a rating scale) the behavior in relative terms of the sample subjects, as a means of collecting data for the study.

Interview is used to describe projects in which data is obtained verbally (in person or by telephone) from the sample subjects.

Questionnaire is used to describe projects in which data is gathered from sample subjects by asking them a predetermined set or list of questions in a uniform and predetermined manner. When the questionnaire is administered verbally, also use the code for interview.

A survey describes the collection of similar information in a uniform manner from a sample population about existing conditions.

Referenced test is one that appears on the attached list of tests.

Non-referenced test refers to a named instrument not on the attached list, which assigns value to selected pieces of information collected in a uniform manner from a sample population.

The subcategories of observation, interview, questionnaire, survey, standardized test and non-standardized test should be used when the project refers to developing or modifying one of these research methods without giving details. Unnamed test is coded when use of tests is mentioned but they are not specifically named; included here is the use of locally developed tests not specifically named. The coding of project methodologies can be considered a continuum, stretching from projects that use known methods described above--to projects that refer to modifications or new measures--to projects that describe the development or modification of research method as a significant area of the research activity in which case they are coded both here and in Section V, on focus of research.

IV. Focus of Research

The choices selected in this section are amplified and detailed by choices in Section V and should correspond to the coding there. The definitions are given in the instructions on Section V on the following pages.

A. Primary Focus. The purpose of this section is to delineate the primary area of interest of the study; therefore, one and only one code may be selected. Pick the category that best represents the overall emphasis or focus of the study, being as specific as possible in your choice (e.g., determining which area of development or behavior seems to be the more integral to the study). If two areas seem equally emphasized, choose the one that you feel best reflects the purpose of the study, and code the other area under "secondary focus." (Exception: where the two conflicting choices fall under the same general heading, the general item may be coded, if you are unable to differentiate the relative importance of the two to the study--e.g., if both cognitive and social-emotional development seem equally integral, the broader category, "development or health of the child or adolescent" may be coded.) When intervention program effects are studied, code the intervention as primary, and effects as secondary.

B. Secondary Focus. This section is intended to reflect an additional area of emphasis aside from the primary focus. If the study has more than one major emphasis, that additional area should be selected and coded from those available on this page; however, only one item may be chosen.

In the event that the study has only a primary focus (i.e., no secondary emphasis), code the item "no secondary focus in the study" (5042).

V. Areas of Research

The items in this section are used to describe significant topics being investigated by each project. The major areas are the child's (youth's) development/health, the research process, the family, the neighborhood/community, the broad social environment, people (non-family) in the child's environment, and intervention programs/activities. All items that apply are coded. A good question to ask yourself in making these decisions is,"Knowledge about what topics will be increased as a result of this study?" Avoid coding settings and pre-existing conditions or nondependent outcomes unless the impact of these items is being studied.

The sections are not mutually exclusive. Many projects will look at concepts in more than one of these rather arbitrarily defined sections. For example, projects can study cognitive, physical, and social development in the same study, or family and the broader social environment in the same study.

A. Physical Development. This section will be used to describe studies of growth, normal and abnormal, as well as studies of diseases of children and youth and physical health issues or areas. When the items on handicapping conditions, physical disease, alcohol abuse, drug abuse, or child abuse are used the corresponding items in the section on targeted population should be coded. Studies coded in this section should not include those which focus exclusively on treatment programs or services but should be those which investigate the nature, causes, and relationships of variables in addition to those introduced in a planned program of intervention [e.g., do include studies of the frequency and pattern of drug abuse and do not include studies of delivery systems for drug abuse treatment programs].

Explanation of items:

Physical development. The general term used to describe all studies related to growth, body development, or physical health of the child or adolescent.

Body growth. Patterns, characteristics, form, structure and rate of growth--anatomical, biochemical,physiological, etc.

Puberty. The physical changes and conditions associated with the emergence of sex differences in adolescents.

Motor development. The development of body functioning associated with movement, large and small, voluntary and otherwise.

Stimulus response. The involuntary physical reactions such as reflexes.

Locomotion. The ability to move the body from one place to another.

Sensory processes. The physical processes associated with being aware of taste, touch, smell, vision, audition.

Vision. Physical processes associated with being able to see.

Audition. Physical processes associated with hearing.

Touch. Physical processes associated with tactile awareness.

Physical characteristics. Studies of bodily characteristics or abilities, such as left-handedness, strength, lateral dominance.

Handicapping conditions. A study of one of the conditions listed in targeted population on pages 11 and 12.

Physical disease. A study of physical illness--etiology, effects, symptoms, and treatments.

Sudden Infant Death Syndrome. Used when a study refers to it by name

Infectious disease. A study of any contagious illness (i.e., measles, VD).

Congenital disease. A study of illness existing at or from one's birth, e.g., hyperbilirubinemia, physical deformities, etc.

Injury or accident or trauma. A study of the frequency or causes of these conditions.

Alcohol abuse. A study of the causes, effects, or symptoms related to excessive alcohol use.

Drug abuse. A study of the causes, effects, or symptoms of non-medicinal drug use.

Poisoning or intoxication. Studies of the causes, effects, or symptoms of ingesting toxic or inedible substances, e.g., lead-based paint, pica.

Studies of child abuse or neglect. Studies of the causes, effects, or symptoms of child abuse or neglect.

Studies of nutrition. Studies of the food intake practices and needs, as well as studies of the health status of children resulting from food intake, e.g., malnutrition.

Studies of genetics. Studies of hereditary traits and disorders.

Studies of pharmacology. Studies of the uses and effects of drugs used for medicinal purposes.

Studies of epidemiology. Studies of the distribution and incidence patterns of disease.

Studies of health issues related to pregnancy and childbirth. A general term used to describe studies dealing with both maternal and child health before, during, and immediately after (28 days) childbirth.

Maternal health. Studies of the health of mothers before, during and after childbirth.

Prenatal nutrition. Studies of the food intake practices and requirements of pregnant women.

Child prenatal, perinatal, and neonatal health. Studies of health issues related to the fetal or newborn child.

B. Cognitive Growth and Development.

This section is used to describe studies examining the processes by which knowledge is acquired. When intellectually handicapping conditions are studied, that general term is coded in this section and the specific condition is coded in the targeted population section. Again, the studies coded here should be those that focus on the nature and relationship of variables other than those associated with services.

Explanation of items.

Perception. Used to describe studies of the mental awareness of sensations.

Visual perception. Used to describe studies of the mental awareness of visual sensations.

Auditory perception. Used to describe mental awareness of sounds.

Tactile perception. Used to describe mental awareness of touch.

Attention. The act or faculty of concentrating the mind upon an object.

Concept formation. Study of the processes associated with relating perceptions, e.g., abstraction, generalization.

Problem solving, critical thinking, decision making. Used to describe studies of the processes of assembling knowledge in an orderly fashion to perform a task or reach a conclusion.

Creativity. Study of the cognitive processes associated with innovative ways of assembling knowledge.

Memory. Study of the processes of storage and recall of information.

Learning processes. Study of the cognitive processes through which knowledge is attained, e.g., conditioned learning, observational learning, transfer of skills.

Symbolic processes. Study of higher order cognitive processes which use representations of reality in the absence of the original stimulus to formulate and communicate thoughts.

Reading processes. Study of the processes of using visual symbols to communicate information.

Imagery. Study of the cognitive processes associated with reliving a sensation in the absence of the original stimulus.

Play. Used to describe studies of play of children in which they are reliving (by acting out) situations in which the original stimulus (real setting or conditions) is absent.

Language development. Study of the processes of developing communication by voice using arbitrary auditory symbols in conventional ways with conventional meanings.

Language acquisition. Study of the processes by which the structure, meaning, and sound of language develops.

Structure and content of language. Study of the organization and meaning of the symbols used in communicating verbally.

Communication skills and language usage. Study of the utilization of verbal symbols by the individual.

Computer simulation of thought. Study of cognitive processes utilizing a computer to reproduce cognition.

Studies of cognitive achievement or performance or ability. Studie of the outcomes of an individual's development and use of the processes by which knowledge is acquired.

Studies of intellectually handicapping conditions. Study of any disabilities relating to the processes of acquiring knowledge.

C. Social-emotional Growth and Development

This section is used to describe studies of the socialization processes through which the child acquires an awareness of himself as an individual, of his role and the role of others in interaction, of the cultural values of the society in which he lives, as well as studies of the behaviors that result from the acquisition of this knowledge. Studies of the child's affective consciousness about himself and his environment are also included in this section under emotional development. As in the two preceding sections, this section is used for studies which examine social and emotional development and resulting behaviors as variables under study and not merely attributes referred to in the project narrative.

Explanation of items.

Social development and personality. Studies of the socialization process: the child's development of his own social roles and the roles of others, the development of awareness of the cultural values of his society, and the behaviors that result from the socialization process.

Perception of self. Studies of the way in which the child becomes aware of his identity.

Locus of control. Studies of the child's perception of control over his own life and actions.

Cultural/racial identity. Studies of the process by which the child identifies himself with his ethnic and cultural heritage and becomes socialized into group membership.

Sexual identity. Studies of the process by which the child identifies himself with the male or female roles to which he is exposed.

Interpersonal relationships, social skills and competency. Studies of the way the child perceives and interacts with other people.

Perception of others. Studies of the way a child perceives others.

Attitudes. Studies of the development of a disposition or opinion with regard to a person, group, idea, or thing, as well as studies of the incidence, distribution, and intensity of such opinions.

Attitudes towards work. Studies of job satisfaction, career aspirations, expectations, and opinions of job status.

Attitudes towards school. Studies of opinions about school work and policies and educational aspirations and expectations.

Racial attitudes. Studies of the development of opinions about racial/ethnic groups and studies of the impact of these attitudes.

Social attitudes. A broader category used to describe studies of opinions on politics, social conditions, social institutions, and other broad societal concerns. Does not refer to social attitudes in the sense of convivial or friendly opinions of other individuals.

Attitudes toward drug use. Study of the development of opinions about the use of intoxicating drugs, as well as the impact of these opinions on behavior.

Development of values. Studies of the processes associated with the individual's development of a belief system, ethics and morals, and the various stages and behaviors associated with value development.

Personality characteristics. Studies of the composite of an individual's characteristic mental and emotional attributes and the way in which they influence an individual's behavior.

Coping mechanisms. Studies of methods or processes used by an individual to deal with the demands of a situation deemed to be difficult.

Emotional development. Studies of development of the child's affective consciousness and studies of the relative health of the child's affective development (mental health).

Feelings of alienation/loneliness. Studies of the awareness of separateness from others or from the cultural group.

Anxiety and fear. Studies of apprehension of danger or misfortune that result in a state of psychic tension.

Hostility/Aggression. Studies of antagonistic feelings and the resulting violations of the rights of others by force.

Pleasure/Happiness. Studies of feelings of enjoyment or satisfaction.

Emotional illness. Studies of neurosis and psychosis or other forms of maladaptive affective development. Code the specific condition in the target population when you can.

Social behavior patterns. Studies of group or individual behavior patterns in the context of societal norms.

Sexual behavior patterns. Studies of group or individual behavior with regard to sexual practices, reproduction rates, family planning practices, abortion, etc.

Maladaptive behaviors. Studies of individual or group actions that are not functional in the society and which violate social norms.

Life Style. Studies of the composite pattern of social values, attitudes, and behaviors that can be identified as a recurring phenomenon associated with certain groups or individuals. Do not use this for studies of component parts of social behavior. Code this when life style is mentioned by name.

D. Overall Child Growth and Development.

Studies of the composite pattern of physical, cognitive, social and emotional growth and development.

Developmental readiness. Refers to maturation of the whole child as it relates to his ability to perform tasks, function in social situations, and meet environmental demands. Code this when the concept is identified by name.

Developmental continuity. Refers to overall child development as it relates to the kinds and quantities of services which would be appropriate for each phase of development. Code this when the concept is identified by name.

B. Study of Research Methods

This section is used to classify those projects which focus on or include as a significant part of their research the investigation or development of research methods, instruments or procedures. Projects which include instrument development or studies of research bias in a larger scope of work should have that aspect of the research coded in this section.

Explanation of items:

Instrumentation. Refers to all studies of ways to categorize or quantify information.

Behavior observation techniques. Refers to studies of the classification of human behavior without regard to predetermined performance standards, i.e., the recording of behavior as opposed to rating task performance.

Techniques of classifying data for information retrieval or storage. Refers to methods for coding or recording facts about events, individuals or settings.

Tests and measurements. Refers to studies of methods of quantifying information about people, programs, events, services, i.e., assigning relative value to facts about them.

For program evaluation. Refers to the study of methods for assigning value to information about the impact or benefit of intervention programs.

For treatment or technique evaluation. Refers to the study of methods for assigning value to information about the effectiveness or efficiency of treatment methods, teaching techniques, materials and/or drugs used in intervention programs.

For evaluation of individuals. Refers to the study of methods to assign value to information about individuals--about their physical development or status, or cognitive development or performance or affective (social and emotional) development and status. Use the same definitions for physical, cognitive, and social-emotional that were used in the preceding section on the developmental processes.

Statistical analysis. Refers to the study of methods of mathematically determining the nature or essential features of social research data.

Study of research bias. Refers to the study of the ways in which the results of research are influenced by variables other than those which the research purports to study, thereby leading to faulty data or conclusions.

Effect of setting/research agent. Refers to the study of the ways in which the researcher's perception of the subject or research setting or the subject's perception of the researcher, or research setting, can influence the results of a study in a way that decreases the validity of that research.

Cultural/racial/ethnic bias. Refers to the study of the ways in which research methods or techniques fail to accurately reflect cultural/racial/ethnic variables, reducing the validity of the results.

C. The Family

This section is used to describe studies of families as they relate to children and youth. Code all items which are being studied in the project. Families are defined as a relatively permanent ongoing primary relationship which involves at least one adult and one child under eighteen.

Explanation of items:

Ecology of the home. Refers to studies of the child's interaction with his home setting and includes studies of the presence or absence of reading materials and the adequacy of the setting for child rearing.

Family structure/composition/spacing of children. Refers to studies of the number and description in terms of personal roles and kinship of the members of families. Include studies of family size and the role of the eldest child or middle child (unless such studies focus on interactional aspects of these roles). The kinds of families listed under this heading are classified according to the family composition and are self-explanatory. Code all the kinds of families that apply.

Child rearing practices. Refers specifically to particular methods or theories related to the guidance and management of children by parents.

Intrafamily relationships. Refers to the way in which family members interact, and to the patterns of family dynamics, and to the way the relationships are affected by the attitudes, actions, and roles of various family members.

Parental roles and behavior. Refers to the functions the parents in a family perform and their patterns of interaction with family members.

Parental attitudes and expectations. Refers to parental opinions and aspirations with regard to any topic, not just about their children and family. These are coded, however, when these attitudes and expectations are related in some way in the study to the impact on and/or benefit to, the children of the family.

Sibling relationships. Refers to the interactions among children in the same family.

Parent-child interaction. Refers to studies of the nature of the relationship and transactions between parents and children.

Family health. Refers to all studies relating to family health maintenance and the effects of mental or physical illness on the way a family functions. The effects of mental or physical ill health of any member on the family can be coded in this section, e.g., the effects of a psychotic mother on her children, the effects on family function of a handicapped child. The particular health aspect is coded (health practices, mental ill health, physical ill health) whenever applicable. Do not code studies of hereditary ailments here. Code those studies under physical development as studies of genetics.

The family's interface with society. Is used to describe studies of the impact of social institutions, social change, and social norms as they produce change in families and studies of the ways in which families react to, and interact with, their social environment.

Training of parents. Refers to any kind of instruction of parents in child care practices, parenting skills, family life or subjects related to healthy family functioning.

D. The Neighborhood/Community Environment

This section is used to describe studies of the immediate natural (not related to planned child services like school) environment of the child beyond the Home as this environment relates to the child.

Explanation of items:

Geographical location. Refers to the neighborhood location by state, or region of the country, or by community descriptions (such as farm, inner city, suburban) and the way this location relates to children or youth.

Housing conditions/arrangements. Refers to the patterns of housing in the neighborhood or community as a whole.

Facilities, equipment and/or materials. Refers to resources which might affect children found in the community, other than those provided by the home or by intervention programs serving children. (Include studies of the impact of movies, playgrounds and/or libraries).

E. The Broad Social Environment

This section is used to describe studies of the relationships and interactions between children and youth and the society in which they live. Studies of cultural norms, social problems, social change, and societal associations that relate to children are included.

Explanation of items:

Cultural effects. Refers to studies of the attitudes, values, and norms of the groups with which children and youth are associated.

Youth culture. Refers to the pattern of behaviors, norms and attitudes which are characteristic of various groups of adolescents.

Ethnic and/or racial culture. Refers to studies of the attitudes, norms, and behaviors of the racial/ethnic group to which a child belongs and studies of how these factors influence the child.

Cross cultural study. Refers to studies which compare the attitudes, norms, and behavior of groups of people with a common cultural background to other groups of people with common cultural background. Use this code to include studies of cultural groups outside the U.S. as well as comparisons of cultural groups within the U.S.

Socioeconomic status/environment. Refers to studies of the wealth or social prestige of a child's family or neighborhood and the influence on the child.

Religious environment. Refers to studies of the impact of religious values with which the child identifies and their influence on the child.

Mass media. Refers to studies of the role of television, newspapers, radio, and publications in the child's environment and studies of how the media influence children.

Television. Refers specifically to studies of the role of television in the child's environment and the influence of television programming on children.

Societal crises. Refers to studies of the disruption of harmonious functioning of society resulting from dysfunctional behaviors or events.

Studies of delinquency. Refers to studies of illegal behavior among children and adolescents.

Studies of unemployment. Refers to studies of unemployment as a social problem affecting children and youth.

Studies of the legal rights and responsibilities of children and adolescents. Refers to studies which examine the way in which laws and the judicial system affect or relate to children and youth. For example, this might include studies on the rights of adolescents to view their school records or studies on the effect of compulsory education.

Studies of status offenses. Refers only to studies of those laws which make illegal for adolescents certain kinds of behavior which are not illegal for adults, such as running away or truancy.

Social change. Refers to studies of rapidly changing norms, values, lifestyles, associations, and other social phenomena that affect children and youth.

Effects of government policy changes. Refers to studies of the larger societal impact of alternative, possible, or newly adopted policy with regard to Federal practices and priorities affecting children and youth. These are studies that are not investigating specific intervention programs. One such study might be the impact of working mothers on the work force as a result of government-supported day care centers.

Changing sex roles. Refers to studies of the phenomena of changing patterns and norms regarding social roles for men and women in families, in the world of work, and in society in general.

Changing family patterns. Refers to studies of the causes and frequency of family change, with regard to birth rate, divorce rate, frequency of abortion, age of marriage and numerous other variables when they are studied as a societal phenomenon.

Changing employment practices. Refers to studies of widespread changes in the job practices and patterns of our society which affect children and youth, e.g., working mothers, or a shorter work week.

Effects of desegregation. Refers to studies of the effects, extent and pattern of racially integrating any aspect of societal activity from the schools and housing to the armed services.

Ecological studies. Refers to studies of the natural, overall setting of children and youth and of the interaction between the setting and the child.

F. People in the Child's Environment

These codes are reserved for those projects which study people other than the targeted children/youth of the study or their family. Generally, if a project studies people other than the targeted population and their family, it will do so from either of two perspectives: 1) the influence of that person on the child (6259); or 2) the training of that person to more adequately deal with or provide services for the child (6250). If other people are being studied one of these two items must be coded. Then, from the list of available choices, code all the occupations and/or statuses of the people whose influence or training is being studied. It should be noted that training of parents does not belong under this section--if parents are trained to be more effective caretakers, then code that item under the section entitled "the family." If parents are being trained as para-professionals or as part of an intervention program staff, code 6401, the item for parent training under the heading "other program policies and activities." Studies of the influence of parents or other family members are coded in the family section. In this section, professionals refer to those individuals with at least a four-year college education (or more), while paraprofessionals are those who receive vocational training (with education less than a B.A.) to prepare them to assist a professional.

G. Intervention Programs and Activities

This section is used to describe studies of interventions designed to bring about changes in the health, education, and overall welfare of children and/or adolescents. These projects study the impact of the kinds of services provided, and/or the ways in which these services are provided. The first three sections, kind of service, place, and intervention content, are used to describe the intervention being studied. All three sections are coded whenever possible and all items that describe the intervention activity, setting, or methods are used. The fourth section, effects studied, is used to describe what aspect of the intervention program is being studied. These items are general topics that refer to the items coded under intervention kind, place, and content. At least one choice should be made from this section because if no aspect of the intervention is under investigation, then the intervention program is merely a setting and not an area of research.

Explanation of Items:

Kind of service.. This section is used to describe the purpose and kind of service included in the intervention program being studied. Code all kinds of services included such as instruction, health, etc.

Instruction. This is the general term which includes all education provided through the auspices of intervention programs serving children and adolescents--inside or outside the classroom. Do not include any parent or teacher training. Subcategories of instruction frequently overlap. Code all items that apply. even in part, e.g., a project for sixth and seventh grades uses two codes.

Special education. Is reserved for the instruction of any type of handicapped child whether in the classroom, a medical facility, home, or any other setting.

Infant education. Refers to any program of stimulation designed to promote the cognitive development of the child from birth up to three years.

Preschool education. Refers to instructional programs for children 3 and 4 years old, or prior to their entry into kindergarten.

Primary grades. Refers to educational programs for children in kindergarten (5 years old) through third grade (8 years old).

Middle grades. Refers to educational programs for children in the fourth grade (9 years old) through sixth grade (11 years old).

Junior high school grades. Refers to educational programs for children in the seventh grade (12 years old) through ninth grade (14 years old).

High school grades. Refers to educational programs for adolescents in the tenth grade (15 years old) through twelfth grade (17 years old).

Higher education. Refers to education for high school graduates, either college, professional or advanced vocational training.

Alternative education. Refers to instructional programs that are innovative ways of delivering education to children and youth. Two kinds of educational alternatives can be included: those that occur within the school setting, e.g., ungraded schools, and those that provide flexibility in educational settings, e.g., work-study programs, voucher systems.

Health and/or medical services. Is the general term used to describe any program--preventive or remedial--which is designed to improve the physical and/or mental well-being of children and youth. Many programs include more than one category of services. Code all the specific services identified.

Preventive health services. Refers to intervention programs that focus on health maintenance through innoculations, screening, early diagnosis of physical or mental illness.

Pre- and post-natal health care. Refers to intervention programs that provide care for pregnant women prior to childbirth and to mothers and young infants for the first year after birth.

Drug abuse treatment and/or prevention. Refers to any intervention designed to prevent and/or treat the misuse of intoxicating drugs. Include drug education programs outside the school and rehabilitation programs.

Health services related to family planning. Refers to intervention programs that provide services such as birth control devices, genetic counseling, abortion, referral services, and others related to family planning.

Nutrition programs. Refers to any provision of nutrition supplementation such as food stamps, free school lunches, prenatal nutrition supplements.

Mental health services. Are programs designed to prevent, diagnose, or treat emotional disorders. Do not include treatment or screening for learning disorders or mental retardation.

Alcohol abuse treatment and prevention. Refers to intervention programs designed to prevent or treat the misuse of alcohol by children and youth. Include alcohol education programs outside the school and rehabilitation programs.

Welfare services. Refers to a wide range of programs designed to promote the well-being of children and youth by providing those services which, in addition to education and health care, are needed to insure the opportunity for optimal development.

Health insurance. Refers to programs designed to provide health care to children via Federal payments to doctors and/or health care facilities.

Income maintenance. Refers to programs which are designed to provide monetary support for the living costs of needy children and youth, such as AFDC and certain forms of social security benefits.

Foster care. Refers to programs which provide temporary full-time family care for children or youth.

Adoptive services. Refers to programs which provide permanent, legal placement in families other than the families of birth.

Programs for the prevention or treatment of child abuse. Refers to programs designed to prevent child abuse and programs designed to diagnose and rehabilitate families in which child abuse occurs. If emergency services are provided, such as temporary overnight protective care or crisis intervention, also use the code for emergency services.

Employment services/programs. Refers to services designed to aid youth in finding paid jobs, by providing public service employment, by placement of youth in private industry or by other means. (Do not include volunteer placement).

Emergency services. Refers to programs designed to provide temporary crisis care whether it be money, housing, food, clothing, counseling, or referral. Include all types from Travelers Aid to protective overnight care in child abuse.

Advocacy. Refers to programs designed to promote and protect the well-being and rights of children by coordination of existing community services and by acting as an "advocate" for improved social programs and legislation for the benefit of children.

Delinquency treatment or prevention services. Refers to programs designed to rehabilitate children and youth who have been declared in violation of the law. Include detention homes, foster homes, probation, halfway houses, correctional institutions and others. Include also rehabilitation for status offenders (Status offenses are those which would not be illegal if the offender were no longer a juvenile, and, therefore, the offense is illegal because of the youth

Recreation. Refers to programs designed to provide leisure time activities, sports, and play opportunities.

Law Enforcement. Refers to programs designed to enforce legal requirements related to children, including school attendance, and to provide legal services, such as legal aid, to indigent youth accused of a crime.

Place. This section is used to code the location at which the service is being provided. It is to be used to describe the program setting and not the auspices. The items are self-explanatory with the possible exception of community center. A community center is a neighborhood-based center that offers a wide range of services and programs to the people of the neighborhood, as opposed to a group care facility which may be located in a neighborhood, but which provides a single service for one group within the neighborhood.

Intervention Content. This section is used to describe the policies, methods and techniques used by intervention programs.

Educational curriculum. Refers to the subject content of instructional programs presented inside or outside of schools. Most again are self-explanatory with the following amplifications:

Language arts. Refers to all instructional curriculum in communication and the content areas include language usage, vocabulary development, spelling, handwriting, composition, and others. Only reading curriculum is coded as a special sub-division of language arts.

Vocational/technical education. Refers to curriculum designed to train individuals for a specific job and the training will not require, or result in, a college degree.

Career education. Refers to curriculum designed to acquaint children and youth of many ages and interests with adult work roles in a wide variety of occupational fields.

Education for parenthood. Refers to curriculum for non-parents (children or youth) designed to prepare them for roles as parents and includes content areas such as parenting skills, child development, child care, and family life. Training of parents in parenting skills is coded in the section on the family.

Citizenship training. Refers to curriculum designed to prepare children and youth for future roles as participants in adult society and in government and includes training in leadership and social cooperation.

Environmental studies. Refers to studies of the interrelationships of natural settings and includes training in the nature of environmental problems such as water pollution and air pollution.

Teaching techniques/learning conditions. This section is used to describe instructional methods, both those used by teachers and those that result from innovative structuring of the learning experience:

Volunteer community service. Refers to methods to provide learning opportunities for youth by placing them in volunteer service in the community.

Cross-age teaching. Refers to situations in which older children or youth instruct pupils of a younger age.

Peer teaching. Describes learning programs in which children share knowledge with and instruct other children of the same age.

Non-graded instructional program. Refers to teaching students of various ages and experiences in the same group without assigning a grade name to the course of instruction.

Voucher system. Refers to a method of allowing flexibility in the educational program by allowing a student or the parent of the student to choose from a variety of schools with varying educational approaches and curriculum.

Bilingual instruction. Describes instruction in more than one language or in the native language of the students, using English as a second language, depending on the English proficiency of the students. The instruction of English-speaking students in a foreign language is not coded bilingual instruction.

Tutorial instruction. Refers to teaching children individually or in very small groups.

Individualized Curriculum. Refers to an approach to learning in which the curriculum is prescribed for each student's needs, abilities, and problems and the student moves ahead at his own pace.

Programmed instruction. Refers to individualized instruction in which the curriculum follows a set pattern with each learning unit following another in a prescribed order. The student works at his own pace completing each unit before going on to the next unit of the set curriculum.

Computer-assisted instruction. Is comprised of programmed instruction with the aid of a teaching machine or computer.

Television instruction. Employs planned educational television programming with defined curriculum content and purposes, and may be conducted either inside or outside of the classroom--e.g., educational TV.

Open classroom. Refers to learning situations that are set up in a way that permits the child to move from one resource center, class, or learning activity to another guided primarily by his own interest and schedule.

Team Teaching refers to using several instructors, teacher aides or other educational personnel in a single classroom.

Work Experience refers to another type of educational alternative in which participation in a job is considered part of the educational experience, and receives educational credit.

Treatment or Procedures. These items describe additional methods used to deliver services in an intervention program. Code any of the following which apply to the project:

Diagnostic procedures. Refers to efforts to evaluate the physical, social-emotional, or cognitive functioning of the individual, usually through the administration of various tests.

Behavior modification. Refers to a special and specific technique used for the behavior management of problem children. Behavior modification employs various techniques (e.g., reinforcement, time-out, etc.) in order to condition the child's behavior to an acceptable level. However, only code this item when it is specically mentioned as a form of treatment in the project proposal.

Abortion. Is the expulsion of a human fetus (for clinical, emotional, or other reasons) before it is viable, i.e., within the first 28 weeks of pregnancy.

Birth control. Refers to the regulation of birth through the deliberate control or prevention of conception.

Physical therapy. Is defined as the treatment of disease or bodily weaknesses or defects by physical remedies, such as massage,, gymnastics, etc.

Speech therapy. Is defined as the treatment of speech handicaps which deviate from accepted speech standards through reeducation and implementation of proper speech habits.

Nutrition. Refers to any form of dietary supplementation provided by an intervention program.

Medication. Refers to the administration of a healing or curative substance (e.g., drugs) to remedy a physical or psycho-social problem.

Psychotherapy. Refers to the counseling or treatment of mental health disorders by the use of psychological techniques by trained medical personnel.

Group therapy. Refers to psychotherapy in which a group of patients discuss their problems together, usually under the leadership of a therapist.

Family therapy. Refers to the treatment of an individual's psychological problems by means of treating the entire family. This approach regards individual problems as symptomatic of a failure in family functioning and seeks to improve family relationships.

Psychological and/or social counseling. Refers to the treatment of an individual's social or emotional problems not through the use of any form of predetermined therapy, but through individual assistance, guidance, or counseling. Included in this item is genetic counseling.

Career guidance/employment. Refers to counseling of an individual with respect to his/her future employment, career, occupational aspirations or expectations.

Peer counseling. Refers to the treatment of an individual's psycho-social problems through the technique of counseling by another of equal age status.

Referral services. Refers to the direction or provision of information regarding existing and available services.

Hot line. Refers to a technique of emergency or crisis counseling via telephone. Referral services may also use a hot line.

Materials or equipment. Code this or the subsequent items under this item only when a project refers to the use of speiclized materials or equipment that are an essential feature of the service rendered.

Instructional materials. Refers to specific and specialized materials such as books, pictures, games, that are essential to an educational program.

Audiovisual materials. Refers to the use of pictorial and/or sound presentations of curriculum content in an educational or treatment program.

Instructional equipment. Refers to all types of educational hardware such as computers and teaching machines and software such as materials, posters, chalk, books, etc.

Manipulative devices. Refers to hand operated games, toys, and equipment used to instruct children or youth.

Prosthetics and orthotics. Refers to the use of artificial limbs and/or other rehabilitative devices.

Other program policies and activities. Refers to additional intervention activities or policies that are essential descriptive features of the program being coded.

Desegregation. Refers to intervention program policies and activities designed to eliminate racial segregation in all aspects of program activities. Limit the use of this term to those programs in which desegregation efforts are an essential feature.

Deinstitutionalization. Refers to the process of providing treatment and care for children previously confined to residential institutions in their own communities on an outpatient basis or in their own homes. It also refers to the process of providing alternative solutions to the institutionalization of status offenders.

Integration of special education into other educational programs. Refers to programs which provide education for handicapped children with special educational needs within the same school and/or same classroom in which education is being provided for non-handicapped children. It is often referred to as "mainstreaming", and seeks to prevent the unnecessary segregation of the handicapped.

Parent involvement in program activities. Refers to special efforts of an intervention program to encourage parent participation in the planning, staffing and evaluation of programs which service their children.

Training of parents for staff participation. Refers specifically to those programs which provide instruction for parents to enable them to play an active role in delivering program services, e.g., training parents to be teacher-aides or dieticians.

Youth involvement in program activities. Refers to the deliberate use of adolescents in the planning, staffing or evaluation of an intervention program.

Effects studied. This section is used to describe what specific aspects of the intervention program described in the preceding section are being investigated, evaluated, and/or developed. When intervention programs are coded at least one item on this page should be coded. These items are general topics which refer to the items coded in the preceding section which describe the program. The usefulness of this section is to separate features which are part of the scope of the program from those that are variables in the research.

Program setting refers to projects which evaluate the location or facility in which a program service is offered.

Educational curriculum refers to studies which develop or investigate the impact of the content of instructional programs.

Teaching techniques/learning conditions. Refers to the investigation, development or evaluation of the instructional methods used in the intervention program.

Materials. Refers to the development or evaluation of the materials or equipment used in providing services.

Delivery systems. Refers to studies of the management and administrative systems, questions of auspices, staffing patterns, and structuring of the service.

Cost and cost benefit. Refers to studies of the costs of an intervention program with measures of its benefits.

Other program policies and activities. Refers to studies of innovative policies and activities related to the intervention program.

VI. Principal Investigator

This section is used to record information about the principal investigator, which is found in the vita included with the proposal (when it is included). When more than one principal investigator is listed, code only the information about the first person in the list of investigators.

A. Sex of principal investigator. Try to determine from the name whether the P.I. is male or female. If you are undecided, look for clues in the vita sections of previous employment or membership in societies or associations. It is rare to find a picture or declaration of sex. If you are not sure, code unknown. If you use this code, at the bottom of the abstract in a separate paragraph list the whole name and professional organization memberships listed so that further investigation can be made later.

B. Highest degree level of principal investigator. The highest degree level of the principal investigator is found on the proposal face sheet, on the vita or in the personnel section of the proposal. Otherwise, code information not found. The degrees are ranked as follows:

1. less than Bachelors degrees, including associate degrees
2. all Bachelors degrees
3. Masters degrees, which are those arts and science degrees requiring one or two years work beyond the Bachelors degree
4. all first professional degrees, as described in the coding directions for that section
5. all advanced professional degrees higher than a Masters degree or higher than a first professional degree, but not as high as a Ph.D. Example, a Masters of Law (LLM), a Master of Science in Surgery following an M.D.
6. Doctor of Educaton (EDD)
7. all Ph.D. degrees

When two degrees of equal level have been obtained, code the one most recently obtained. First professional degrees in general require two years or more of preliminary undergraduate study and a total of at least six years of post-secondary education. A first professional degree certifies the successful completion of academic requirements for entry into a profession.

Such degrees include the following:

SC	Doctor of Science
PodD	Doctor of Podiatry
DDS	Doctor of Dental Science
DMD	Doctor of Dental Medicine

MD	Doctor of Medicine
OD	Doctor of Ophthalmology
DVM	Doctor of Veterinary Medicine
LLB	Bachelor of Laws
JD	Juris Doctor
DD	Doctor of Divinity

C. Institution awarding highest degree. This section is designed to separate foreign and U.S. institutions awarding the highest degree of the principal investigator. This information is found in the vita or in the personnel section of the proposal. Otherwise, code information not available. The name of the institution must be recorded on the code sheet in the literal information. The name of the institution is to be written out in full except that "university" is abbreviated "U" and "college" "C". The name of the city in which the institution is located should be given if available on one of the document parts. Note: This is the institution awarding the highest degree. If the last degree obtained is a lower one than a previously obtained one, code the higher of the two. However, if two degrees of equal level have been awarded, code the institution awarding the one most recently obtained.

D. Field of highest degree. These items describe the academic discipline in which the principal investigator obtained the highest (or most recent highest) degree. The information is usually found on the vita with the date of degree and name of the institution. If you are unsure how to code a listed field of study, use the code field not elsewhere classified and list the name of the field, and/or the major professional association memberships of the principal investigator in a separate paragraph at the bottom of the abstract.

E. Date of highest degree of principal investigator. This information is usually found on the vita with the name of the degree and awarding institution. Again code the highest (or most recent highest) degree obtained. If the information is available, code 71 and the last two digits of the year in which the degree was obtained.

APPENDIX E

COMMENTS ON THE METHODOLOGY

Data analysis, per se, can take many different forms:

- The rural farmer, for example, needs to periodically analyze water drawn from his well, to measure iron, sulfur, and other mineral quantities.
- A psychologist may wish to analyze a battery of tests in terms of qualities already known about the subjects, such as manual dexterity.
- A stockbroker desires to use past behavior of a particular stock and of the market as a whole to advise his client as to the optimal holding position in the stock. The list is, of course, endless, and so, therefore, is the list of data analysis techniques, each one vigorously defended by a small group of stalwarts, each group proclaiming victory over the "competion's" idiosyncrasies.

We have chosen here to present the techniques used for this paper in slightly less factional terms. Indeed, in a rather unexpected symbiotic form, the A.I.D. (Automatic Interaction Detection algorithm) and multiple regression techniques serve not only to strengthen each other's weaknesses, but to highlight each other's strengths as well. Let us begin with a short (and intentionally artificial) example of the class of problems to which these techniques can be applied.

Suppose we set out to test the hypothesis that there is some relationship between an individual's attitude toward the military draft and his/her sex and/or age. The data for this hypothetical survey are presented in Table 1. We note that the sample consists of 2,000 males and females, 50% of each between 18 and 24 (the probable draftable age range if the draft is reinstated). We also note that 500 are unfavorable to the draft, while the remaining 1,500 favor it. Our goal is to isolate these 500 individuals on the basis of their age, and (where age is not sufficient) sex. The social scientist will recognize that, indeed, this is precisely how the multiple regression technique functions:

- Find the independent ("predictor") variable with the strongest relationship to (i.e., correlation with) the dependent ("criterion") variable (attitude toward the draft, in this case);
- Find the independent variable with the strongest relationship to the dependent variable once the mutual effects (i.e., partial correlation) of the first independent variable have been removed;

- Repeat the process until no variable remains to be selected which has a significant (partial) correlation with the dependent variable.

TABLE 1

ATTITUDE TOWARD DRAFT[*]

Draft Attitude[**]	Sex	Age Group 18-24
U	M	Y
U	M	Y
U	M	Y
U	M	Y
U	M	Y
F	M	N
F	M	N
F	M	N
F	M	N
F	M	N
F	F	Y
F	F	Y
F	F	Y
F	F	Y
F	F	Y
F	F	N
F	F	N
F	F	N
F	F	N
F	F	N

[*] Each line in the table represents 100 people with this response pattern.

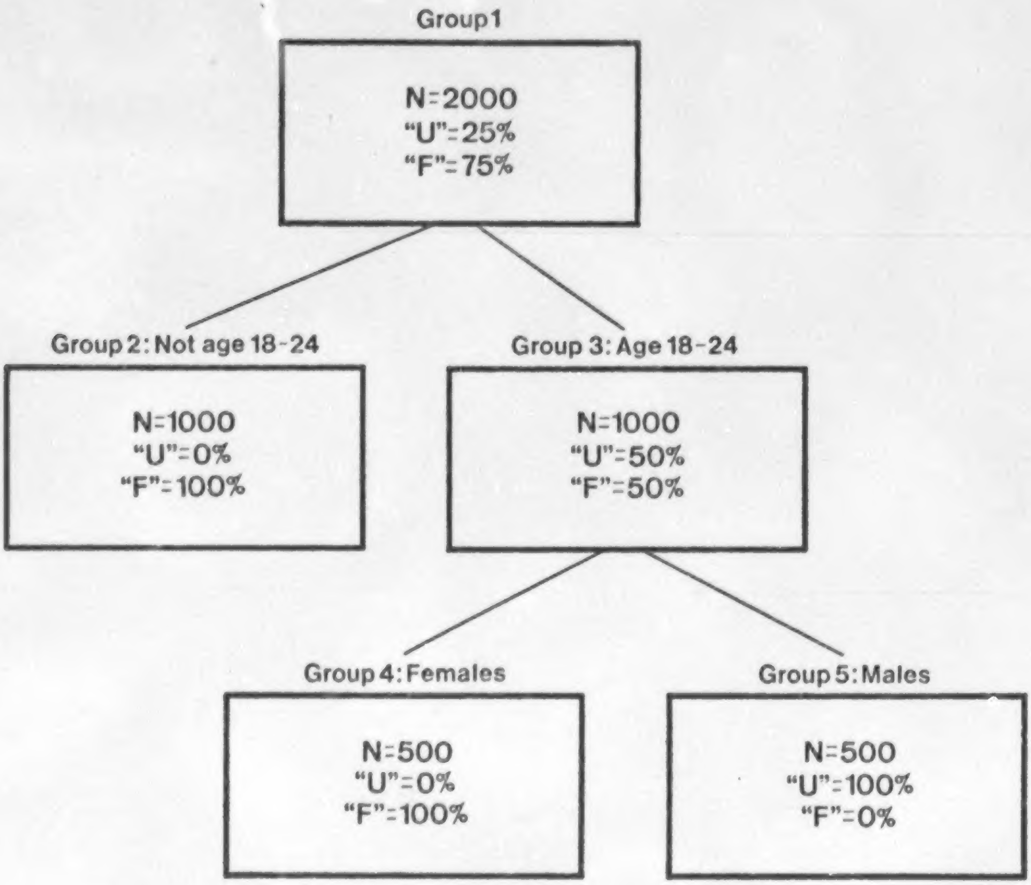
[**] 'U" represents "Unfavorable"
"F" represents "Favorable"

In applying this algorithm to the example problem, we note that both age and sex have the same correlation with the criterion as the very beginning of the algorithm. (These are known as "Stage 1," or "Zero Order" correlations.) In this event, the analyst may arbitrarily choose either variable.

Casual observation of the data will suggest to the reader that a second stage is necessary: It is clear by visually comparing the "Age Group" column with the "Draft Attitude" column of Table 1 that the two columns are not exactly correlated. That is, you cannot predict with complete accuracy the values in one column knowing only the values in the other. So once we have explained everything we possibly can with age, the obvious sequel question is: "To what extent can sex be used to explain what age cannot?" In order to answer this question, the concept of variation must be introduced. Often referred to as "Total Sum of Squares," it provides us with a basis for measuring how well our predictors are predicting the criterion. In the current example, exactly one third of the total valuation in the criterion can be traced to age; an additional one-third is contributed by sex after the partial correlation of age is removed. Which means that our regression model explains 66% of the total variation in attitude toward the draft, which--by contemporary social science standards--is excellent, and which, by this example, is disastrous. One final glance at the data suggests why. There is a pattern to the responses: The only unfavorable attitudes toward the draft were presented by men in the 18-24 age group. While we had been considering age group and sex to be acting independently of one another, there is an interaction between these two which is seen, in Figure 1, to totally correlate with the criterion.

It is at this point, then, that the need for an AID-type algorithm becomes clear. As its name implies, AID determines the significant interactions between predictors vis-à-vis a dependent variable. It does this by splitting the entire sample (known as Group 1) into two mutually exclusive and exhaustive subgroups (Groups 2 and 3). The rules that AID follows for making this split are: (1) The mean criterion score of one of the two groups should be as low as possible, while that of the other group should be as high as possible, and (2) all members of Group 2 must share some attribute--or combination of attributes--which no member of Group 3

Figure 1
AID Tree for Attitude-Toward-Draft Example


Group 1
N=2000
"U"=25%
"F"=75%
Group 2: Not age 18-24
N=1000
"U"=0%
"F"=100%
Group 3: Age 18-24
N=1000
"U"=50%
"F"=50%
Group 4: Females
N=500
"U"=0%
"F"=100%
Group 5: Males
N=500
"U"=100%
"F"=0%

may possess. In the example at hand, the attribute is "Age 18-24": all members of Group 3 possess this attribute; all members of Group 2 do not possess this attribute. The AID algorithm then attempts to split Group 2 into 2 smaller groups. This is a futile exercise, for all members of Group 2 reacted favorably toward the draft. However, the algorithm meets considerably greater success with Group 3, where half the people were pro-draft, and half were against it. In this case, Group 3 can be split into Groups 4 and 5--a "Favorable to Draft" and "Unfavorable to Draft" group, respectively--based on sex. We have thus grown an "AID Tree"--a tree which lists all significant interactions between the predictors in terms of the "leaf" groups (i.e., the groups which appear at the bottom of the tree). Note that every subject in the study falls into exactly one leaf group; and that each leaf group is uniquely identified by a set of predictor characteristics possessed by no other leaf group.

We have now determined what our primary interactions are and can return to the regression model--or do we need to? As it turns out, AID has done most of the regression work for us as well by notifying us of interesting non-interactions. (Note, for example, the total correlation between being female and pro-draft.) Indeed, the only reason for returning to the regression is to weight the interactions. It is sometimes useful to know not only which interactions are most powerful in predicting criterion scores, but also how much more powerful (and in what order). This the AID does not give. Thus, the final procedural step facing the analyst is to feed the significant interactions--as determined by AID--back into the regression analysis by including them in the original model. The resultant explanation of variation should be precisely the same as reflected by the AID program.

A More Generalized Model

We are now ready to adopt a slightly more generalized construction for our original problem and its solution.

The Task: To establish a model which, by some definition of the word, "maximizes" the relationship between a criterion and a predictor set.

The Criterion:	Must be at least interval-scale. Ratio-scale often useful for interpretation.
The Predictors:	Unlimited in number. Must be nominal-scale or above. Each subject must have exactly one value on each predictor. Each predictor should have relatively few categories.
The Method:	o Using the AID algorithm, partition the sample into a set of internally-homogeneous sub-groups, each uniquely identifiable by a set of predictor characteristics. The characteristics identifying each leaf group in the AID represent the major interactions in the model. o Feed these major interactions as independent variables into a classical multiple regression model with the (above) criterion as dependent variable. Results in the establishment of hierarchy of interactions as well as relative strengths of each interaction (using Beta weights, not B coefficients).

How to Trim an AID Tree

Given the basic randomness of numbers, some constraints must be applied to the AID algorithm to prevent it from splitting indefinitely. Therefore, splitting can be terminated any of several different ways:

- The number of subjects in one (or both) of the split groups falls below a user-specified minimum.
- The students' t-test, applied on the difference between means of the two split groups, falls below a user-specified minimum.
- The variation explained by making the split falls below a user-specified minimum.
- The number of leaf groups exceeds a user-specified maximum.

Different Forms of the Generalized Model

We have obviously tried to keep the discussion concise and to the point, despite the fact that the two techniques described here do not readily lend themselves to that treatment. For the sake of completeness, we present the reader with a question-and-answer list to expand his/her knowledge of the topics as desired, followed by a reference list for additional sources:

Q. Using AID, am I bound to dichotomous variables, as in the example?

A. Absolutely not. The only restriction is that each predictor have a reasonable (< 100; usually < 50) number of categories, and that the criterion be interval- or ratio-scaled (or be dichotomous, which amounts to the same thing).

Q. Is there an advantage to having a dichotomous criterion?

A. Yes: The Group means are always between 0.0 and 1.0 (inclusive), and represent the proportion of people in the group who "scored" 1.0 on the criterion.

Q. Doesn't the requirement of a binary (as opposed to tertiary, etc.) split impose unnecessary constraints?

A. No: If a 3-way split were optimal, AID would simply make a two-way split followed immediately by another two-way split on the group receiving the two codes, etc., for higher-order splits.

Q. Suppose the AID showed no significant interactions--that the primary variables were, in fact, independent--would the AID and multiple regression runs return the same result?

A. They would if the "important" predictors were all linearly related to the criterion. Recall that the standard regression model assumes a linear relationship between the predictors and the criterion. AID imposes no such constraint. In some instances this is desirable; in others it is not.

Q. Is there something I can do to prevent the following from occurring: Suppose one of my predictors is age, ranging from 20 to 60, and I'm trying to predict "state-of-health." My AID says all even-numbered ages have good health, and all odd-numbered ages have bad health. How do I interpret that?

A. You can "constrain" any variable you desire, so that AID splits on that variable only such that all people below a certain category fall into one split group, and all those at or above fall into the other. Any variable may be so "constrained" by the user, although the algorithm picks the split category, of course.

REFERENCE LIST

Sonquist, John A. Multivariate Model Building : The Validation of a Search Strategy. Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 1970.

Sonquist, John A., Elizabeth Lauh Baker, and James N. Morgan. Searching for Structure. Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 1973.

Andrews, Frank M., James N. Morgan, John A. Sonquist, and Laura Klem, Multiple Classification Analysis: A Report on a Computer Program for Multiple Regression Using Categorical Predictors. Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 1967.

Sonquist, John A., and James N. Morgan. The Detection of Interaction Effects. Survey Research Center Monograph No. 35, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 1964.